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Motor Vehicle Traffic Crashes as a Leading Cause of Death in the U. S., 1994

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16. Abstract <p>Motor vehicle traffic crashes ranked 9th behind heart disease, cancer, and stroke as a leading cause of death in the U. S. in 1994, accounting for 41,507 lives or 1.8% of all deaths in 1994. Data on the leading causes of death from the National Center for Health Statistics (NCHS) for calendar year 1994, the latest year for which these data are available, were used for this report. Traffic crashes were the 8th ranked cause of death for males, accounting for 1 of every 41 male deaths in 1994, representing 27,882 deaths. Traffic crashes were the 9th ranked cause of death for females, accounting for 1 of every 82 deaths, representing 13,625 deaths. Traffic crashes were the leading cause of death for ages 6 - 27, both males and females; ages 6 - 23 and age 26 for males; and ages 4 - 6 and ages 8 - 28 for females in 1994. Differences between ethnic groups appear to exist for traffic crashes as a cause death: ranking 7th and 10th for white males and females; 10th and 15th for African-American males and females; 3rd and 5th for Native American males and females; 5th and 6th for Hispanic males and females; and 5th and 6th for Asian/Pacific-islander males and females.</p>					
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Highlights for 1994

- Motor vehicle traffic crashes ranked 9th behind heart disease, cancer and stroke as a leading cause of death in the United States, accounting for 41,507 lives or 1.8% of total deaths for the year. This was about 1 out of every 55 deaths that occurred. For males, traffic crashes were the 8th ranked cause of death accounting for 1 out of every 41 male deaths, or a total of 27,882 lives. For females they were the 9th ranked cause of death, claiming 13,625 lives, or 1 out of every 82 female deaths that occurred.
- While nontransport accidents (e.g. falling, poisoning, drowning, etc.) ranked first among both males and females as an external cause of death, traffic crashes still ranked a close second for both sexes, though accounting for different proportions of deaths in each case: almost 1 out of every 4 male deaths due to external causes, and about 1 out of every 3 such deaths for females. For both sexes combined, the likelihood of dying from a traffic crash was 17% as great as dying as a result of suicide, 33% as great as dying from homicide, and 12.8 times as great as being killed in a crash involving some other mode of transport such as a railway train, aircraft or a boat.
- Traffic crashes caused almost one-half of all *accidental* deaths that occurred, about 46% of all such deaths for males and 44% for females. When comparing unintentional deaths in 1994 for both sexes combined, the likelihood of dying from a traffic crash was 6.3 times as great as dying from falling (generally the No. 2 cause of accidental death, regardless of year), 4.9 times dying from poisoning, 14.2 times dying from suffocation and 12 times dying in a fire.
- For both sexes combined, traffic crashes were a major (i.e., ranked as 1, 2, 3, or 4) cause of death for all ages 1-41. They were the No. 1 cause for every age 6-27, and ranked 2-3 and 2-6 as a leading cause for ages 1-5 and 28-40, respectively. For males, they were also a major cause of death for ages 1-42. They were the No. 1 cause for every age 6-23 and 26, and ranked 2-3 for ages 1-5 and ranked 2-6 for ages 24-25 and 27-43. For females, they were a major cause of death for ages 1-38; first ranked for every age 2-6 and 8-28; and ranked 2-3 for ages 1-3 and ranked 2-4 for ages 7 and 29-45.
- For the following ages, traffic crashes were the leading cause of death:

Ages 6-27 for both sexes combined : there were 14,666 traffic deaths. This was 26.4% of the death total for the age group and 35.3% of all the traffic deaths that occurred.

Ages 6-23 and 26 for males : there were 8,560 traffic deaths. This was 27% of all the male deaths at these ages, 31% of the total for male traffic deaths.

Ages 4-6 and 8-28 for females : there were 4,563 traffic deaths. This was 27% of the female death total for the age group and 33.5% of the total for female traffic deaths.

- 50% percent of all persons killed in traffic crashes were under the age of 34. For males, 53.4% were under 36 ; for females, 47.6%.
- For ages 1-38, where traffic crashes were a major cause of death for both sexes, 2.4 times as many males as females died as a result of traffic crashes (16,713 versus 6,887), and the male risk of traffic death was also about 2.4 times the female risk at these ages.
- For ages 43 and above, where traffic crashes were not a major cause of death for either sex, only 1.6 times as many males as females died in traffic crashes (9,377 versus 5,975), but the male risk of traffic death for these ages was still almost twice the female risk.
- For both sexes combined, ages 17-21 had the highest single-age incidence of traffic deaths, with a total of 5,934 victims for all five ages. This was 32% of all deaths at these ages, 22% more than from homicide, the second ranked cause at these ages, and almost 12.5% of total traffic deaths for all ages. For males, the highest incidence of traffic deaths occurred at ages 18-22, with 4,341 victims. For females, ages 16-20 experienced the highest incidence of traffic deaths, with 1,742 deaths for all five ages combined. The death rates for these ages for males and females were 47.8 and 20.4, respectively. This was double the average death rate due to traffic deaths for all ages (21.9 and 10.2).
- For males aged 21-39, there was a very high correlation between traffic crash deaths and homicides; for most ages of this interval, the death counts associated with each cause were generally in very close agreement. For the entire age interval, there were 11,164 male traffic deaths, which was only 546 or 5% more than the 10,618 male homicide deaths. Ages 21-27 are especially interesting. Homicide was the leading cause of male deaths for ages 24-25 and 27 and the No.2 cause of male death for ages 21-23, 26. For traffic crashes, it was just the reverse; the No.2 cause of male death for ages 24-25 and 27 and the No.1 cause for ages 21-23 and 26. And for these seven ages 21-27, traffic crashes caused 0.34%% or only marginally more male deaths than homicide (4,960 versus 4,887). For females, traffic crash deaths were relatively uncorrelated.
- Involvement in traffic crashes does not disappear with advancing age. For males aged 70 and over, there were 3,143 traffic deaths. While this was only 11% of total traffic deaths for males of all ages, the male risk of traffic deaths for these ages was 60% above the average risk of traffic death for males of all ages. For females aged 70 and over, there were 2,650 traffic deaths, or almost 19.4% of the female traffic death total for all ages, and the female risk of traffic death for these ages was 11% below the average for females of all ages.
- The average age of death from all causes was 71.1 years (67.1 for males and 75.2 for females), whereas the average age for those killed in motor vehicle traffic crashes was 39.7 years (38.2 for males and 42.6 for females).
- Deaths, percentages and Age-adjusted death rates have been provided by the race and

ethnicity of the deceased. The statistics for the 6 leading causes of death and/or motor vehicle traffic crashes have been compared for 4 races, namely white, African-American, Native American and Asian/Pacific-Islander as well as for people of Hispanic origin.

- For people classified as Whites, motor vehicle traffic crashes were ranked 7th for males and 10th for females accounting for 23,255 male and 11,448 female deaths in 1994. The corresponding age-adjusted death rates were 21.7 and 9.8, respectively.
- For African-Americans, motor vehicle traffic crashes were ranked 10th for males and 15th for females accounting for 3,641 male and 1,624 female deaths in 1994. The corresponding age-adjusted death rates were 24.3 and 9.4, respectively
- For Native Americans, motor vehicle traffic crashes were ranked 3rd for males and 5th for females accounting for 448 male and 202 female deaths in 1994. The corresponding age-adjusted death rates were 42.6 and 31.5, respectively. These rates were the highest among all the ethnic groups concerned, namely Whites, African-Americans, Native Americans and Asian/Pacific-Islander.
- For Asian/Pacific-Islander, motor vehicle traffic crashes were ranked 5th for males and 6th for females, accounting for 534 male and 350 female deaths in 1994. The corresponding age-adjusted death rates were 12.7 and 7.6, respectively. These rates were the lowest among all the ethnic and race groups concerned.
- For people of Hispanic Origin, motor vehicle traffic crashes were ranked 5th for males and 6th for females accounting for 3,078 male and 1,009 female deaths in 1994. This was 5.7% of all male deaths and 2.8% of all female deaths. Traffic crashes were the No.1 cause of male death for ages 4-6 and 8-13. For these ages, they were responsible for 141 deaths or 26% of all male deaths at these ages. For females, traffic crashes were the No.1 cause of death for ages 3-4, 8, 10-11, 13-23, 25 and 27. For these ages, traffic crashes were responsible for 352 deaths or 26% of all the female deaths at these ages. The overall age-adjusted death rates due to motor vehicle traffic crashes was 24.2 for males and 8.1 for females, close to the age-adjusted death rates due to traffic crashes for people of all origin (21.8 and 9.8).
- In 1994, by the *State of Residence* of the deceased, 4,367 deaths related to traffic crashes occurred in the state of California, more than that for any other state. For both sexes, the highest death rate due to traffic crashes was in the state of Mississippi (31.2 versus a National Average of 15.9). The lowest death rate for both sexes was in Massachusetts (7.8). The highest rank as a cause of death due to Motor Vehicle Crashes for both sexes was 6 for the states of Alabama, Idaho, Mississippi, New Mexico, Oklahoma, Tennessee, Utah and Wyoming. For males, the highest rank was 4 for Mississippi and for females, it was 7 for Idaho and Mississippi.

1. Introduction

This report examines the status of motor vehicle traffic crashes as a leading or major cause of death in the United States in 1994. It is based on a study, by age and sex, of the rank-ordering¹ of 64 causes of death which have been adopted by the National Center for Statistics and Analysis (NCSA) of the National Highway Traffic Safety Administration (NHTSA) to study the leading causes of death in the U.S. This study was originally prompted by a number of unanswered questions regarding adequate background material and appropriate information pertaining to the general concept of motor vehicle traffic crashes as a leading cause of death. The more important of these questions are the following:

1. The general statement "...traffic crashes are the 6th (or 7th or 8th, etc.) leading cause of death in the United States..." is frequently made without proper qualification and, as such, is not only unclear as to specific meaning but leaves a great deal to be desired in the way of adequate information about the topic. For example, to what extent is this statement true? For all ages combined, or only for certain specific ages? For both sexes separately, or only for both sexes combined? How do traffic crashes rate in rank-order as a cause of death relative to other-top ranked causes? That is, are traffic crashes a major or minor sixth or seventh-ranked cause? What are the top-ranked causes of death in the U.S. and does this ranking tend to be the same from one year to another?
2. A closely related statement "...traffic crashes are the leading cause of death between the ages of X and Y years..." can also prove misleading, if made without proper qualification, and leaves a number of questions unanswered. For example, is this statement true for every single age or just for all ages combined for the stated age interval? For what minimum age interval does the statement apply to every age of the interval? For what maximum age interval does the statement hold true for all ages combined? In either case, by what margin in number or percentage of deaths are traffic crashes the leading cause of death over lesser-ranked causes? Does the statement apply to each sex separately or only to both sexes combined?
3. What data are generally used for cause-of-death studies? The data used for this study² are based on complete mortality information for the United States for the year 1992, obtained from the National Center for Health Statistics (NCHS) of the U.S. Department of Health and Human Services. These data are compiled annually by the NCHS from a census of death records (certificates) furnished by the 50 states, the District of Columbia and the independent death registration areas representing the five boroughs of New York City. Although the United States death registration system also includes Puerto Rico, the Virgin Islands, Guam, American Samoa, and the Commonwealth of the Northern Marianas, the term "United States" in this report refers only to the aggregate of the 50 states

¹Rank based on number of deaths.

²Obtained from public-use data files by the NCHS for computer usage. See Reference 1.

(including New York City) and the District of Columbia³. Complete and fully edited mortality data are generally not available to the public until approximately 2 to 3 years after the calendar year of the data.

4. How are causes of death categorized? Any study of rank-orderings of data is ultimately dependent upon how the data in question is classified in the first place. The mortality data from NCHS are categorized as to cause of death according to the International Classification of Diseases (ICD)⁴, and the specific data used for this report reflect, for each death, a single underlying cause as opposed to multiple causes of death. This single underlying cause of death is defined to be:

- a. That disease or injury which initiated the train of events leading directly to death, or
- b. The circumstance of the crash or violence which produced the fatal injury.

Currently, 914 single underlying causes have been adopted by the ICD as basic (3-digit) death cause categories; 722 are classified on the basis of internal bodily disease or disorder, and the remaining 192 are classified on the basis of bodily injury arising from external factors such as crashes or acts of violence (e.g., homicide, suicide), adverse effects of surgical/medical care, legal interventions or operations of war. These 192 mortality categories do not include any of the injury and poisoning categories (the "N-codes"), but include only those that reflect externally-caused death. Based on these 914 single underlying causes, as categorized by the ICD, the NCSA has adopted a reduced listing comprising 64 causes of death⁵ in order to more effectively study the leading causes of death, and the role of motor vehicle traffic crashes as a leading cause, in the United States. This 63-cause listing consists of 14 of the single underlying causes in addition to the 49 "aggregated" causes, which are the result of grouping together highly related causes from the remaining 900 single causes. The 14 underlying causes which have been retained, and not grouped with other possible related causes, consist of prominent related diseases or disorders such as septicaemia, diabetes mellitus, multiple sclerosis, etc., each of which take a significant toll of human life. The 49 aggregated, on the other hand, consist of groups of biologically related internal bodily disorders or logically related external causes which are better studied and more easily understood as grouped causes. For example, all diseases of the circulatory system which are heart-related are grouped together and considered under the comprehensive designation "Diseases of the Heart". All of the many different and complex forms

³For additional details regarding sources, definitions and classifications of mortality data for the United States, see Reference 2.

⁴Ninth Revision, International Classification of Diseases, 1975. The ICD is regulated by the World Health Organization (WHO) and is currently supported by more than 60 member nations, including all the major world powers except India. Also currently not included are a number of African states and other small countries. For additional details regarding ICD, see Reference 3.

⁵See Table 1 of the Appendix to the Report.

of malignancy are considered as "Malignant Neoplasms". Similarly all of the many different kinds of crashes that do not involve transport vehicles or other transport conveyances in motion (e.g., falling, poisoning, drowning, etc.) are simply considered "Nontransport Accidents".

The NCSA-adopted listing of 64 causes of death is comprehensive in that all 914 underlying causes are represented. Fifty-six of these 63 adopted causes reflect the 722 underlying causes based on internal morbid bodily conditions, while the remaining 7 NCSA-adopted causes reflect the 192 underlying causes based on external factors such as crashes and acts of violence. This 63-cause listing is also not an arbitrary listing, but is generally in close agreement with a special listing of death causes used by the NCHS to report on leading causes of death in the United States⁶. The latter differs from the NCSA listing primarily in causal areas related to infectious diseases that currently result in only small numbers of deaths (e.g., whooping cough, measles, syphilis, etc.), but are of continuing interest as a public health concern, and, secondarily, in those areas relating to accidental death. For example, the NCHS listing of the leading causes of death shows only two breakdowns for accidental death, namely, total motor vehicle crashes and all other crashes/adverse effects, neither of which is included, per se, in the ranking process. The NCSA listing, on the other hand, provides for a rank-ordered breakdown of accidental death into 4 basic categories of obvious importance to NHTSA: motor vehicle traffic, motor vehicle nontraffic, other transport and nontransport accidents. In general, however, leading causes that are responsible for large number of deaths such as heart disease, cancer, stroke, chronic pulmonary diseases, etc. are virtually identical in both listings.

5. Finally, there may be some confusion regarding the distinction between "leading cause" and "major cause" of death. For this study, a "leading cause" of death for any population grouping is considered to be any one of the 10-15 top ranked causes for that grouping. A "major cause" of death is merely an abbreviation for "major leading cause" of death and is generally considered to be among the three or four top-ranked causes. When not first-ranked, the importance of a death cause relative to other death causes, in terms of number of resulting deaths, is determined by the evaluation of associated raw death counts or scores initially expressed as "standard scores". This is a statistical scoring procedure widely used in educational and psychological testing⁷.

Using a valid classification of causes of death, the primary purpose of this report then, is to provide clear and concise information on traffic crashes as the leading causes of death in the United States, in relation to basic population demographics (age and sex), and in relation to other leading causes. This is the fourth in the series of such reports. The first report on this topic examined deaths occurring during calendar year 1979. This was the first year of implementation of revised cause-of-

⁶NCHS cause-of-death rankings are based on the 73 Selected Causes of Death and the categories of Human Immunodeficiency Virus (HIV) Infection and Alzheimer's Disease. See discussion of NCHS procedure for cause-of-death rankings on page 11 of Section 7 (Technical Appendix) of reference 2, and refer to Table 2 of the Appendix to this report for the NCHS-adopted listing of 39 death causes for ranking purposes.

⁷Reference 4.

death classifications under the 9th Revision of the ICD and, as a consequence, 1979 provides a convenient base year for data comparisons with subsequent years. The results of this initial study were presented in a technical report dated February, 1997, which reviews the U.S. mortality experience for calendar year 1992.

The population data used to compute the death rates shown in this report are the latest estimated resident population of the United States as of July 1, 1994, as determined by the Bureau of the Census⁸. All deaths and death rates shown reflect U.S. resident data only. Nonresident deaths in the U.S. are fully recorded, but nonresident population figures are generally not available due to the difficulty of estimating the number of nonresidents living or traveling in the U.S. during any given year. Consequently, all death rates are computed only with fully compatible (i.e., resident) data in both numerator and denominator. All mortality statistics, then, reflect only resident data.

Unless otherwise specified, all death rates shown are "crude" death rates, that is, they represent the actual death rates prevailing in the U.S. for 1994, by stated cause of death, for each specific population subgroup. They are the number of annual deaths resulting from each stated cause for any subgroup, divided by the estimated mid-1994 population for that subgroup, multiplied by 100,000. Some death rates shown, however, are "age-adjusted". These represent the average of crude death rates for specific population subgroups which have been adjusted to eliminate differences in the age composition of the U.S. population for 1994, as compared to that of a "standard" population for the United States. To date, the total resident population of the U.S. as enumerated in 1940 is usually selected as the standard population; this practice has generally been followed in this report. When the death rates are age-adjusted according to a different standard population, this is indicated in the text. Age-adjusted death rates show what the level of mortality would be if there were no changes in the age composition of U.S. population from one year to the next, or from one subgroup (e.g., sex, race etc.) To another, for any given year. They are better indicators than unadjusted (crude) death rates for showing changes in death rates over a period of time when the age distribution of the population is changing. They are also better indicators for comparisons of mortality between subgroups of the population (e.g., race, sex) with different age distributions⁹.

It is also important to point out that the annual traffic crash death counts obtained by NCHS mortality data are approximately 2% as great as those obtained from NHTSA's Fatality Analysis Reporting System (FARS). The primary reason for the discrepancy between the two data sources lies in reporting differences. FARS reports on fatal traffic crashes occurring during the calendar year, but includes only those in which death occurs within 30 days of the crash. On the other hand, the NCHS data include all traffic deaths occurring during the calendar year, even if the crash took occurred during the previous year. However, all deaths from motor vehicle crashes that occur more than one

⁸Reference 7.

⁹For additional details regarding crude death rates, age-adjusted according to NCHS procedures, see Reference 2. For additional details regarding general standardization procedures for crude death rates, see Reference 8 or 9.

year after the crash are categorized as due to “late effects of motor vehicle crash”. Since no other crash information is provided (e.g., traffic or nontraffic occurrence, occupant of vehicle or pedestrian, etc.), these deaths are usually excluded from the annual NCHS summaries of deaths from motor vehicle crashes. There are very few of these, generally about 300-400 per year.

Section 2 of this report examines motor vehicle traffic crashes and the other three major leading causes of death, for all ages combined. Section 3 presents an overview of major leading causes of death at different levels, while Section 4 analyzes traffic crashes as a leading cause at these ages. Section 5 examines deaths and death rates from traffic crashes among older persons.

2. Major Leading Causes of Death for All Ages Combined

In 1994, a total of 2,278,994 deaths occurred among the residents of the United States; 10,441 more than in 1993 and 103,381 more than in 1992. The age-adjusted death rate¹⁰ for 1994 was 507.4 per 100,000 (U.S. Standard Million) population, and life expectancy at birth for the total population was 75.7 years, an increase of 0.2 years compared with the life expectancy in 1993, but slightly lower than the record high of 75.8 years attained in 1992, with females expected to outlive males by an average of 6.6 years (79.0 years for females vs. 72.4 years for males). The age-adjusted death rate for males was 70 percent as great as that for females (654.6 versus 385.2). Nearly 4 percent more males than females died during the year (1,162,747 males and 1,116,247 females).

Tables 1 and 2 present data on the 15 leading causes of death in 1994 for males and females of all ages, respectively while Table 3 presents similar data for both sexes combined. These 15 leading causes accounted for approximately 85% of the total deaths for each sex (84% for males and 86% for females). The first 3 leading causes for both sexes and all ages in 1994 were: (1) diseases of the heart; (2) malignant neoplasms (cancer); and (3) cerebrovascular diseases (stroke). These three causes have remained unchanged in order of ranking as the first 3 leading causes of death for both sexes for many years. Motor vehicle traffic crashes on the other hand, while ranking 8th as a cause of death for males and ranked 9th for females and both sexes combined.

Diseases of the Heart

In 1994, this No. 1 cause of death in the United States was responsible for 361,276 male and 371,133 female deaths (732,409 total) or approximately 3 out of every 10 deaths of persons of either sex, about 31% of the male deaths and 33% of the female deaths. The resulting age-adjusted death rate for both sexes combined of 140.4 deaths per 100,000 population was somewhat lower than that for 1992 (144 deaths per 100,000 population) and consistent with the general downward trend for heart disease since 1950. In 1994, the age-adjusted death rate from heart disease for males was almost twice the rate for females (188.2 versus 101.6).

Malignant Neoplasms (Cancer)

1994 was the fifteenth consecutive year since 1979 in which cancer, the second-ranked cause of death in the U.S. accounted for more than 400,000 deaths for the year (280,465 male and 253,845 female). This amounted to more than 2 out of every 10 male or female deaths that occurred (about 24% of the total deaths in each case). The total age-adjusted death rate from cancer decreased slightly between 1992 and 1994 (from 133.1 to 131.5), in contrast to the general upward trend that has prevailed since 1950. In 1994, the age-adjusted male death rate due to cancer was 1.4 times the rate for females (159.5 versus 111.2).

¹⁰All death rates designated as "age-adjusted" in this section have been age-adjusted according to NCHS procedures. For additional details, see Reference 2.

Cerebrovascular Diseases (Stroke)

Stroke was the No. 3 killer in 1994 and accounted for 60,225 male and 93,081 female deaths, for a total of 153,306 deaths for the year, or about 1 out of every 19 deaths for males and females combined (5.2% of the total). The age-adjusted death rate from stroke for both-sexes combined was 26.5 deaths per 100,000 population, slightly higher than the rate for 1992 (26.2). The age-adjusted male death rate due to stroke was almost 1.2 times the female rate (28.9 versus 24.5).

Motor Vehicle Traffic Crashes

In 1994, traffic crashes resulted in 41,507 total male and female deaths compared with 39,985 in 1992. The total age-adjusted death rate of 15.7 deaths per 100,000 population shows a slight increase from the rate for 1992 (15.4). While ranking 8th as a cause of death for males in 1994 and accounting for 27,882 or 2.4% of all male deaths, traffic crashes ranked only 9th for females, accounting for 13,625 or 1.2% of total female deaths. Thus, 2.1 times as many males as females died in traffic crashes in 1994. The age-adjusted male death rate from traffic crashes was 21.8 compared to 9.7 for females. That is, the actual risk of male death from traffic crashes was 2.2 times the female risk.

In recent years, males compared to females have accounted for 67% - 70% of all deaths due to traffic crashes. Since the ratio of males to females in the total population is approximately 1.0 (actually slightly less than 1.0, or 0.95 to be exact), more males than females die in traffic crashes because males are exposed to the risk of a motor vehicle crash in greater numbers than females. In addition, males are generally at greater personal risk than females as a result of more aggressive overall behavior, especially as young drivers, night drivers and alcohol-involved drivers at all ages.

The above-mentioned ranking of traffic crashes as a leading cause of death in 1994 (8th for males and 9th for females) reflects the rank-ordering of all 64 NCSA-adopted death causes which, as indicated on page 4 are based on 914 underlying causes of death as currently classified by the ICD. Reviewing briefly, there are two basic types of underlying causes: *internal* causes, or those attributable to some type of internal bodily disease or disorder which results in the death (e.g., cholera, diabetes, emphysema, etc.), and *external* causes, or those attributable to external factors, which produce a fatal injury or have a fatal effect on crashes, poisoning or acts of violence¹¹. As a result of this basic distinction between underlying causes, 57 of the 63 NCSA-adopted causes are internal causes while the remaining 7 are external causes, and motor vehicle traffic crashes are one of the major external causes of death in the United States compared to, say, suicide, homicide or other transport crashes¹². If traffic crashes are ranked only in relation to *external* causes of death, then, for all ages combined

¹¹See Reference 2 for additional information regarding the medical classification of mortality data.

¹²Crashes involving other modes of transport such as railway, aerospace or water transport conveyances.

in 1994, traffic crashes ranked a close second to nontransport accidents, among both males and females, though accounting for different proportions of victims in each case; almost 1 out of every 4 deaths due to external factors for males, and about every 3 such deaths for females. As indicated above, nontransport accidents were the first ranked external cause of death for both males and females in 1994. Table 2 depicts additional data on the 5 major external causes of death in 1994.

As a major external cause, traffic crashes are the prime cause of *accidental* death in the United States, and this has been true for many years. Thus, for persons of all ages, traffic crashes alone in 1994 caused almost one-half of all accidental deaths that occurred, about 46% for males and somewhat less, about 44%, for females. When compared with other unintentional causes, traffic crashes accounted for 4.0 times as many male deaths and twice as many female deaths as falling, which is generally the No. 2 cause of accidental death, regardless of year. Exhibit 5 presents additional information on the leading causes of accidental death in 1994. For the purposes of this comparison, nontransport accidents are desegregated and shown as separate causes of death.

Exhibit 1 presents statistics on the deaths caused by the 15 leading causes for both sexes in the United States for 1994. Exhibits 2 and 3 present the same data for males and females respectively.

Exhibit 1 : Deaths, Percents of Total Deaths and Death Rates for the 15 Leading Causes of Death for Persons of All Ages, by Sex, United States, 1994

Male Deaths

Cause of Death ¹	Rank ² Order	Number of Deaths ³	% of Total Deaths	Age-Adjusted Death Rates ⁴
All Causes		1,162,747	100.0	654.6
Diseases of the Heart	1	361,276	31.1	188.2
Malignant Neoplasms (Cancer)	2	280,465	24.1	159.5
Cerebrovascular Diseases (Stroke)	3	60,225	5.2	28.9
Chronic Obstructive Pulmonary Diseases	4	53,729	4.6	26.9
Pneumonia	5	36,913	3.2	16.5
Human Immunodeficiency Virus (HIV) Infection	6	35,641	3.1	26.4
Nontransport Accidents	7	29,635	2.6	19.8
Motor Vehicle Traffic Crashes	8	27,882	2.4	21.8
Suicide	9	25,174	2.2	18.6
Diabetes Mellitus	10	24,758	2.1	13.9
Homicide and Legal Intervention	11	19,707	1.7	16.3
Chronic Liver Disease and Cirrhosis	12	16,513	1.4	11.2
Symptoms, Signs and Ill-Defined Conditions	13	13,182	1.1	8.5
Nephritis, Nephrotic Syndrome and Nephrosis	14	10,866	0.9	5.2
Other Digestive Diseases	15	10,258	0.9	5.7

¹Ninth Revision, International Classification of Diseases, 1975.

²Rank based on number of deaths in specified group.

³Residents of the U.S. only (50 states and the District of Columbia).

⁴Rate per 100,000 population in specified group.

Exhibit 2 : Deaths, Percents of Total Deaths and Death Rates for the 15 Leading Causes of Death for Persons of All Ages, by Sex, United States, 1994
Female Deaths

Cause of Death ¹	Rank ² Order	Number of Deaths ³	% of Total Deaths	Age-Adjusted Death Rates ⁴
All Causes		1,116,247	100.0	385.2
Diseases of the Heart	1	371,133	33.3	101.6
Malignant Neoplasms (Cancer)	2	253,845	22.7	111.2
Cerebrovascular Diseases (Stroke)	3	93,081	8.3	24.5
Chronic Obstructive Pulmonary Diseases	4	47,899	4.3	17.1
Pneumonia	5	43,331	3.9	10.3
Diabetes Mellitus	6	31,934	2.9	12.1
Psychoses and Mental Retardation	7	16,618	1.5	3.1
Nontransport Accidents	8	16,613	1.5	7.1
Motor Vehicle Traffic Crashes	9	13,625	1.2	9.8
Alzheimer's Disease	10	12,207	1.1	2.5
Nephritis, Nephrotic Syndrome and Nephrosis	11	12,110	1.1	3.7
Symptoms, Signs and Ill-Defined Conditions	12	12,063	1.1	5.1
Septicaemia	13	11,550	1.0	3.5
Other Digestive Diseases	14	10,880	1.0	3.6
Other Diseases of the Urinary System	15	10,859	1.0	2.7

¹Ninth Revision, International Classification of Diseases, 1975.

²Rank based on number of deaths in specified group.

³Residents of the U.S. only (50 states and the District of Columbia).

⁴Rate per 100,000 population in specified group.

Exhibit 3 : Deaths, Percents of Total Deaths and Death Rates for the 15 Leading Causes of Death for Persons of All Ages, by Sex, United States, 1994, Both Sexes

Cause of Death	Rank ¹ Order	Number of Deaths ²	% of Total Deaths	Age-Adjusted Death Rates ³
All Causes		2,278,994	100.0	507.4
Diseases of the Heart	1	732,409	31.1	140.4
Malignant Neoplasms (Cancer)	2	534,310	24.1	131.5
Cerebrovascular Diseases (Stroke)	3	153,306	5.2	26.5
Chronic Obstructive Pulmonary Diseases	4	101,628	4.5	21.0
Pneumonia	5	80,244	3.2	12.8
Diabetes Mellitus	6	56,692	2.5	12.9
Nontransport Accidents	7	46,248	2.6	13.2
Human Immunodeficiency Virus (HIV) Infection	8	42,114	1.9	15.4
Motor Vehicle Traffic Crashes	9	41,507	2.4	15.7
Suicide	10	31,142	2.2	11.2
Chronic Liver Disease and Cirrhosis	11	25,406	1.1	7.8
Symptoms, Signs and Ill-Defined Conditions	12	25,245	1.1	6.8
Psychoses and Mental Retardation	13	25,117	0.7	3.3
Homicide and Legal Intervention	14	24,926	1.7	10.2
Nephritis, Nephrotic Syndrome and Nephrosis	15	22,976	1.0	4.3

¹Rank based on number of deaths in specified group.

²Residents of the U.S. only (50 states and the District of Columbia).

³Rate per 100,000 population in specified group.

Exhibit 4 : Deaths, Percents of Total Deaths and Death Rates for the Five External Causes of Death for Persons of All Ages, by Sex, United States, 1994

Cause of Death ¹	Rank ² Order	Number of Deaths ³	% of Total Deaths	Age-Adjusted Death Rates ⁴
Males				
Nontransport Accidents	1	29,635	2.6	19.8
Motor Vehicle Traffic Crashes	2	27,882	2.4	21.8
Suicide	3	25,174	2.2	18.6
Homicide and Legal Intervention	4	19,707	1.7	16.3
Other Transport Crashes	5	2,239	0.2	1.7
Females				
Nontransport Accidents	1	16,613	1.5	7.1
Motor Vehicle Traffic Crashes	2	13,625	1.2	9.8
Suicide	3	5,968	0.5	4.2
Homicide and Legal Intervention	4	5,219	0.5	4.0
Other Transport Crashes	5	426	0.1	0.3
Both Sexes				
Nontransport Accidents	1	46,248	2.6	13.2
Motor Vehicle Traffic Crashes	2	41,507	2.4	15.7
Suicide	3	31,142	2.2	11.2
Homicide and Legal Intervention	4	24,926	1.7	10.2
Other Transport Crashes	5	2,665	0.2	1.0

¹Ninth Revision, International Classification of Diseases, 1975.

²Rank based on number of deaths in specified group.

³Residents of the U.S. only (50 states and the District of Columbia).

⁴Rate per 100,000 population in specified group.

Exhibit 5 : Deaths, Percents of Total Deaths and Death Rates for the Five Leading Accidental Causes of Death for Persons of All Ages, by Sex, United States, 1994

Cause of Death	Rank ¹ Order	Number of Deaths ²	% of Total Deaths	Age-Adjusted Death Rates ³
Males				
Motor Vehicle Traffic Crashes	1	27,882	46.0	21.8
Falls	2	6,889	11.4	3.6
Poisoning	3	6,759	11.2	5.0
Drowning and Submersion	4	2,688	4.4	2.1
Fire and Flames	5	2,443	4.0	1.7
Total		60,509	100.0	
Females				
Motor Vehicle Traffic Crashes	1	13,625	44.0	9.8
Falls	2	6,561	21.2	1.6
Poisoning	3	2,235	7.2	1.5
Suffocation	4	1,782	5.8	0.7
Fire and Flames	5	1,543	5.0	1.0
Total		30,928	100.0	
Both Sexes				
Motor Vehicle Traffic Crashes	1	41,507	45.4	15.7
Falls	2	13,450	14.7	2.5
Poisoning	3	8,994	9.8	3.2
Suffocation	4	4,143	4.5	1.1
Fire and Flames	5	3,986	4.4	1.3
Total		91,437	100.0	

¹Rank based on number of deaths in specified group.

²Residents of the U.S. only (50 states and the District of Columbia).

³Rate per 100,000 population in specified group.

3. Major Leading Causes of Death at Different Ages

The breakdown of the cause of death data by sex, as shown in Exhibits 1 and 2, though somewhat more descriptive than the mortality data presented for both sexes combined in Exhibit 3, is still only partially informative in that it does not shed light on the causes of death at different ages. Exhibits 6-8 present a brief summary of the age-occurrence of death in 1994 due to 8 major causes, at the most critical ages for each cause. These 8 causes include the following 7 which were leading or top-ranked cause of death at various ages (for males and/or females or both sexes combined) in 1994:

- Certain Conditions Originating in the Perinatal Period
- Nontransport Accidents
- Motor Vehicle Traffic Crashes
- Homicide
- HIV Infection
- Malignant Neoplasms
- Diseases of the Heart

These 7 were the only causes of death in 1994 whereby, at any age, more persons died of one of these causes than of any other. Cerebrovascular diseases, though never the No. 1 cause of death at any age in 1994, are included in Exhibits 6-8 because of their impact on older persons, making them the third-ranked cause of death for persons of all ages. It is to be noted that the rankings shown in Exhibits 6-8 apply to each specific age of the indicated age interval.

Exhibits 6-8 show that, in general, major causes of death have different rankings at different ages and that, between the sexes, there are differences as well as similarities in the ranking and overall impact of these major causes at corresponding ages. For example, in regard to strict similarities between males and females for the same cause, in 1994 perinatal conditions were, as expected, the leading cause of death for both male and female infants less than 1 year of age. They accounted for 14,315 of the total of 31,710 infant deaths for the year, or almost one-half (45%) of total deaths for both males and females at this age. Virtually all deaths due to perinatal conditions (99%) occurred before the age of 1 for both sexes.

In regard to the remaining 7 major causes of death in 1994, however, the following differences as well as similarities between the sexes in their ranking and overall impact at corresponding ages are evident from Exhibits 6-8.

Nontransport Accidents

Nontransport accidents were the leading cause of death for males 1-5 years of age, and responsible for 1,092 or 25% of the male deaths at these ages as shown in Exhibit 6. For females, they were the leading cause for ages 1-3 and were responsible for 487 or 20% of the female deaths at these ages. Thus, as a first-ranked cause of death in 1994, nontransport accidents claimed the lives of very young children of both sexes. However, relative to the total deaths at these ages, the numbers of male and

female victims were significantly different.

Motor Vehicle Traffic Crashes

Motor vehicle traffic crashes were the No. 1 cause of death for males for every age 6-23 and 26 and for females every age 4-6 and 8-28 (Exhibits 6 and 7). They caused 8,560 male and 4,563 female deaths in corresponding age groups, approximately 27% of the total in each, and are discussed in detail by age and sex in Section 4 of the report. Attention in Section 4, however, is focussed not only on those ages for which traffic crashes in 1994 were a major cause of death but also on those ages for which they are not.

Homicide

Homicide was the leading cause of male death for every age 24-25 and 27, and the No. 2 cause for ages 15-23, 26 and 29-30, claiming a total of 10,000 male victims for the entire age interval 15-27 and 29-30 as depicted in Exhibit 6. For females, on the other hand, homicide was not the first-ranked cause of death at any age in 1994, but second-ranked for each age 15-26 and accounting for 1,370 female victims at these ages as depicted in Exhibit 7. Since the two sexes cannot be compared for those ages where homicide was the No. 1 cause of death for both in 1994, a reasonable alternative is to compare those age intervals where homicide was either the first or second-ranked cause for each sex, that is, ages 15-27 and 29-30 for males and 15-26 for females, as indicated above. For these age groups, homicide caused 22% and 13%, respectively, of the male and female deaths that occurred. This indicates significant differences between the sexes in homicides for corresponding ages in 1994 where homicide was a top-ranked cause of death for both sexes.

HIV Infection

Human Immunodeficiency Virus (HIV) Infection was the No. 1 cause of male deaths for ages 28-43, and the No. 2 cause for age 44 as depicted in Exhibit 6. For females, HIV was the No. 1 cause just for age 29 and second-ranked for ages 30-36 and 38 years.

Malignant Neoplasms

For males in 1994, cancer was either the first or second-ranked cause of death for every age 45-96, causing 267,607 or 27% of all male deaths for the age interval. For females, cancer was either the first or second-ranked for all ages 8-10, 12-14, 27-28 and 30-87, and responsible for 231,647 or 28% of all female deaths at these ages. Thus, for those male and female ages in 1994 where cancer was either the first or second ranked cause of death, the proportions of total age-group deaths due to cancer were essentially the same.

Diseases of the Heart

For males in 1994, heart disease was either the leading or second leading cause of death after age 35,

and responsible for 357,161 or 34% of the total male deaths in the age group. For females, heart diseases were either the first-ranked or second ranked cause of death after age 38 accounting for 367,812 or 35% of the female deaths in the age group.

Cerebrovascular Diseases

Once again, as in prior years, stroke was not the leading cause of death at any age for either sex in 1994. For males, stroke was either the third or fourth ranked cause of death for ages 53 and every age over 54. For females, there was a somewhat similar age-wise ranking for stroke with minor differences: second or third ranked for ages 44-58 and 73 and over. For males, 6% of all deaths for ages 53 and over 54 were due to stroke and 92% of stroke-related deaths occurred in this age group. For females, corresponding percentages for ages 44-58 and 73 and over were 9.6% of total deaths and 85.5% of all stroke related deaths.

For some causes of death, the ages for which the rankings are the highest correspond reasonably well with the typical ages at death (average, median etc.) For that cause. For example, from Exhibit 8, we note that, for both sexes combined in 1994, heart disease was the leading cause of death for every age above 71 years. The average age for those who died of heart disease was 77.1 years and the median age at death was 79.5 years. Also, for this same group in 1994, motor vehicle traffic crashes were the 1st, 2nd or 3rd leading cause of death for every age 1-34; the average age at death in a traffic crash was 39.7 years and the median age at death was 34.5 years. For other causes of death, however, there may be little or no correspondence between the highest ranking by age as a cause of death and typical ages at death. Nontransport accidents are a case in point. Though a high-ranked cause of death at very young ages, considerably more deaths from these crashes occur among older age groups, both in absolute numbers and relative to total populations involved, ages at which the cause-of-death ranking for nontransport accidents, relative to other causes, is much less. Thus, for nontransport accidents, the typical ages at death (average of 55.9 and median of 57.5 for both sexes combined) do not correspond with the high-order rankings by age. These rankings and typical ages at death for these 8 major causes have been fairly consistent in recent years, and are indicative of the following:

- With the single exception of perinatal conditions which generally affect only infants under 1 year of age, motor vehicle traffic crashes are the only cause of death responsible for so many deaths among younger age groups. Except as noted, no cause of death is even a close second.
- In general, younger persons succumb more to *external* rather than *internal* causes of death, with the reverse being true for older persons. Space does not permit a detailed comparison of deaths from external versus internal deaths at different ages, but there are two notable exceptions to this generalization, both of which have already been noted: (1) Nontransport accidents, a major external cause of death, result in many more deaths among older persons, and (2) Perinatal conditions, a major internal cause of death, generally affect only infants less

than 1 year of age.

Exhibits 9-11 are a comparison by sex of the ranking of traffic crashes as a cause of death with the rankings for heart disease, cancer, HIV infection, homicide and nontransport accidents at every age in 1994. For each age, the ranking for each cause is expressed as the percent of total deaths from all causes for that age. Exhibits 12-14 show the population death rates for these 6 major causes, by sex, for each age since 1994. Exhibits 12-14 clearly indicates that in 1994, the risk of death from traffic crashes, relative to that from other causes, decreased to a significantly lower level beginning around age 28 for both males and females.

For additional information regarding major causes of death at different age levels, refer to Exhibit A3 of the Appendix to this report which presents a tabulation of the first 6-9 leading causes of death in 1994, by 5-year age intervals upto 84, by sex. Motor vehicle traffic crashes are included with each age grouping, even if they were not a major cause of death for certain ages, to show their ranking relative to the major causes at different ages.

Exhibit 6: Deaths, Percents of Total Deaths, Death Rates and Typical Ages at Death for 8 Major Causes of Death, by Age Group and Rank Order for Specified Ages, United States, 1994, Males

Major Cause of Death	Rank ¹	Age Group	Number of Deaths ²	% of Total for Age Group	% of Total for Cause	Death Rate ³	Average Age at Death	Median Age at Death
Perinatal Conditions	1	Under 1	8,057	45.2	98.8	45.2	0.6	0.5
Nontransport Accidents	1	1-5	1,092	25.1	3.7	8.7	50.1	45.5
M.V. Traffic Crashes	1	6-23, 26	8,560	27.3	30.7	24.0	38.2	33.5
Homicide	1	24-25, 27	1,916	20.4	9.7	33.2	44.4	40.5
	2	15-23, 26, 29-30	8,084	22.9	41.0	35.6		
HIV Infection	1	28-43	23,431	24.7	65.7	69.3	40.2	39.5
	2	44	1,249	16.4	3.5	65.8		
Malignant Neoplasms	1	54, 57, 59-69	84,006	34.6	30.0	673.7	70.0	71.5
	2	45-53, 55-56, 58, 70-96	183,601	24.6	65.4	717.9		
Diseases of the Heart	1	44-53, 55-56, 58, 70+	268,858	35.3	74.4	977.6	73.2	75.5
	2	36-43, 54, 57, 59-69	88,303	29.7	24.4	304.5		
Stroke	3-4	53, 55-100+	55,481	6.0	92.1	225.0	75.7	78.5

¹Rank based on number of deaths for each age of specified age-sex group.

²Residents of the U.S. only (50 states and the District of Columbia)

³Crude Death Rate per 100,000 population in specified age-sex group.

Exhibit 7: Deaths, Percents of Total Deaths, Death Rates and Typical Ages at Death for 8 Major Causes of Death, by Age Group and Rank Order for Specified Ages, United States, 1994
Females

Major Cause of Death	Rank ¹	Age Group	Number of Deaths ²	% of Total for Age Group	% of Total for Cause	Death Rate ³	Average Age at Death	Median Age at Death
Perinatal Conditions	1	Under 1	6,258	45.0	98.8	332.5	0.6	0.5
Nontransport Accidents	1	1-3	487	19.8	2.9	8.4	66.3	77.5
M.V. Traffic Crashes	1	4-6, 8-28	4,563	27.3	33.5	10.5	42.6	38.5
Homicide	2	15-26	1,370	12.8	26.3	6.4	46.0	43.5
HIV Infection	1	29	205	13.8	3.2	9.6	37.8	37.5
	2	30-36, 38	2,323	13.0	20.1	13.2		
Malignant Neoplasms	1	30-73	137,095	37.6	54.0	201.9	70.6	72.5
	2	8-10, 12-14, 27-28, 74-87	94,552	20.3	37.2	406.3		
Diseases of the Heart	1	74 and above	284,345	39.7	76.6	2798.9	80.9	83.5
	2	39-73	83,467	24.2	22.5	173.8		
Stroke	2-3	44-58, 73 and above	79,553	9.6	85.5	242.0	81.3	83.5

¹Rank based on number of deaths for each age of specified age-sex group.

²Residents of the U.S. only (50 states and the District of Columbia)

³Crude Death Rate per 100,000 population in specified age-sex group.

**Exhibit 8: Deaths, Percents of Total Deaths, Death Rates and Typical Ages at Death for 8 Major Causes of Death, by Age Group and Rank Order for Specified Ages, United States, 1994
Both Sexes**

Major Cause of Death	Rank ¹	Age Group	Number of Deaths ²	% of Total for Age Group	% of Total for Cause	Death Rate ³	Average Age at Death	Median Age at Death
Perinatal Conditions	1	Under 1	14,315	45.1	98.8	371.5	0.6	0.5
Nontransport Accidents	1	1-5	1,722	22.4	3.7	8.7	55.9	57.5
M.V. Traffic Crashes	1	6-27	14,666	26.4	35.3	18.1	39.7	34.5
Homicide	2	14-27	10,523	21.3	42.2	20.6	44.7	40.5
HIV Infection	1	28-40	22,616	22.1	53.7	40.2	39.8	38.5
	2	41	1,837	17.6	4.4	45.8		
Malignant Neoplasms	1	41-71	251,961	34.5	47.2	314.9	70.3	71.5
	2	7, 33-40, 72-90	258,670	23.0	48.4	449.6		
Diseases of the Heart	1	72 and above	513,918	38.0	70.2	2632.2	77.1	79.5
	2	42-71	204,841	28.5	28.0	269.6		
Stroke	3-4	51-58, 75 and above	114,273	7.0	74.5	340.8	79.1	81.5
	2	91-99	21,407	10.9	14.0	2329.4		

¹Rank based on number of deaths for each age of specified age-sex group.

²Residents of the U.S. only (50 states and the District of Columbia)

³Crude Death Rate per 100,000 population in specified age-sex group.

Exhibit 9 : Deaths from Six Leading Causes of Death as Percents of Total Deaths for Each Age, Ages 0-50, Males, 1994

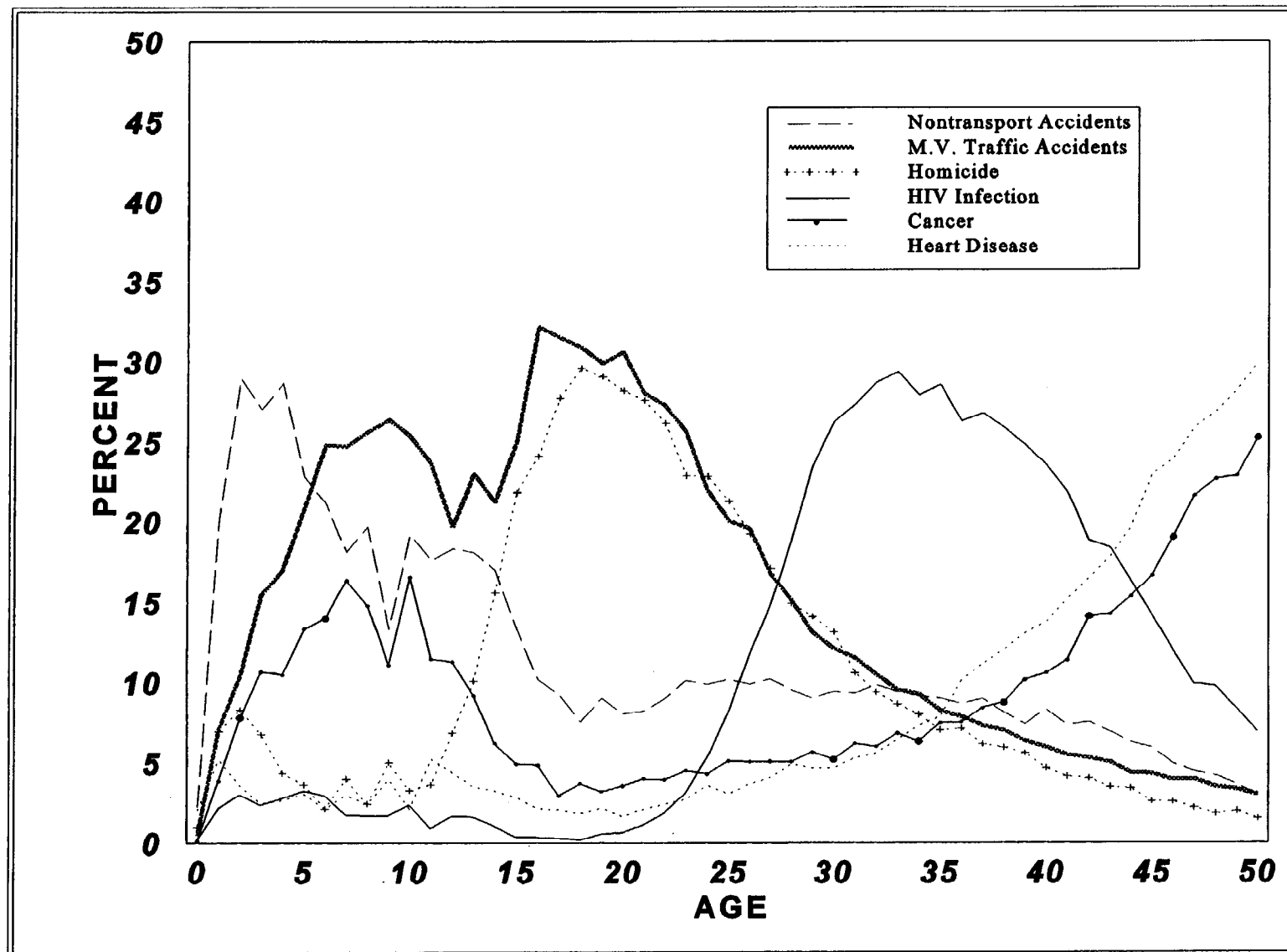


Exhibit 9 (Continued): Deaths from Six Leading Causes of Death as Percents of Total Deaths for Each Age, Ages 51-100+, Males, 1994

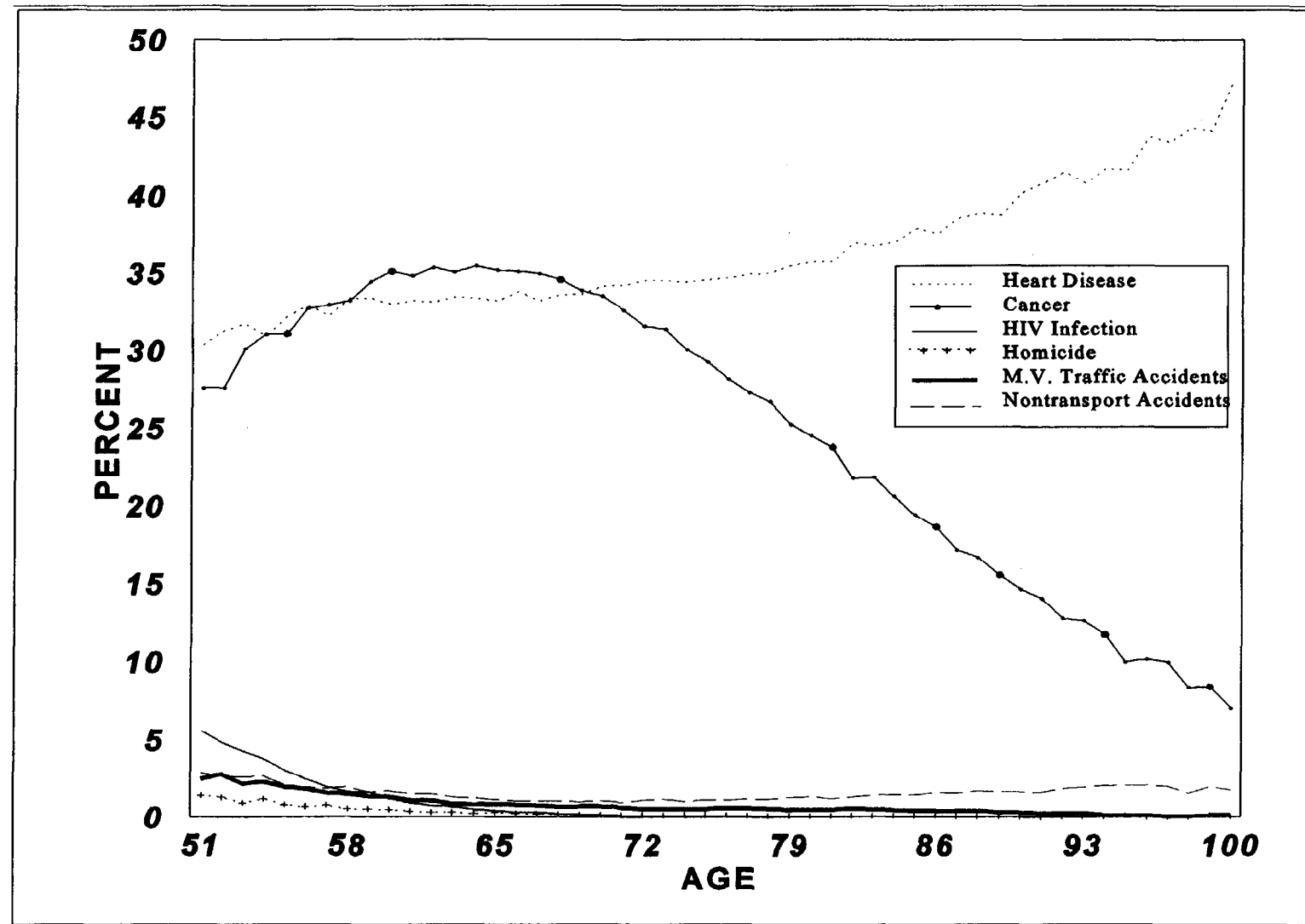
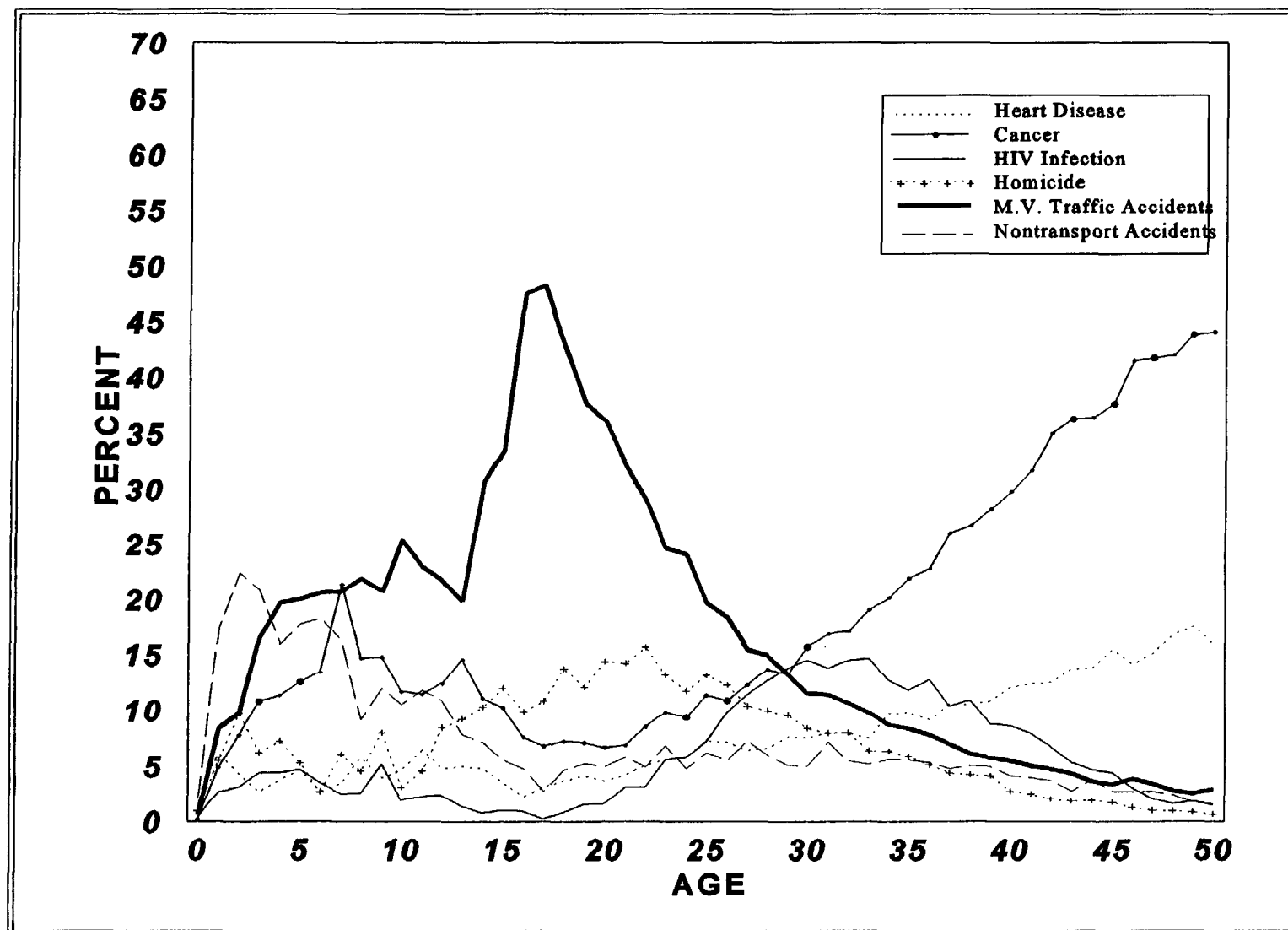
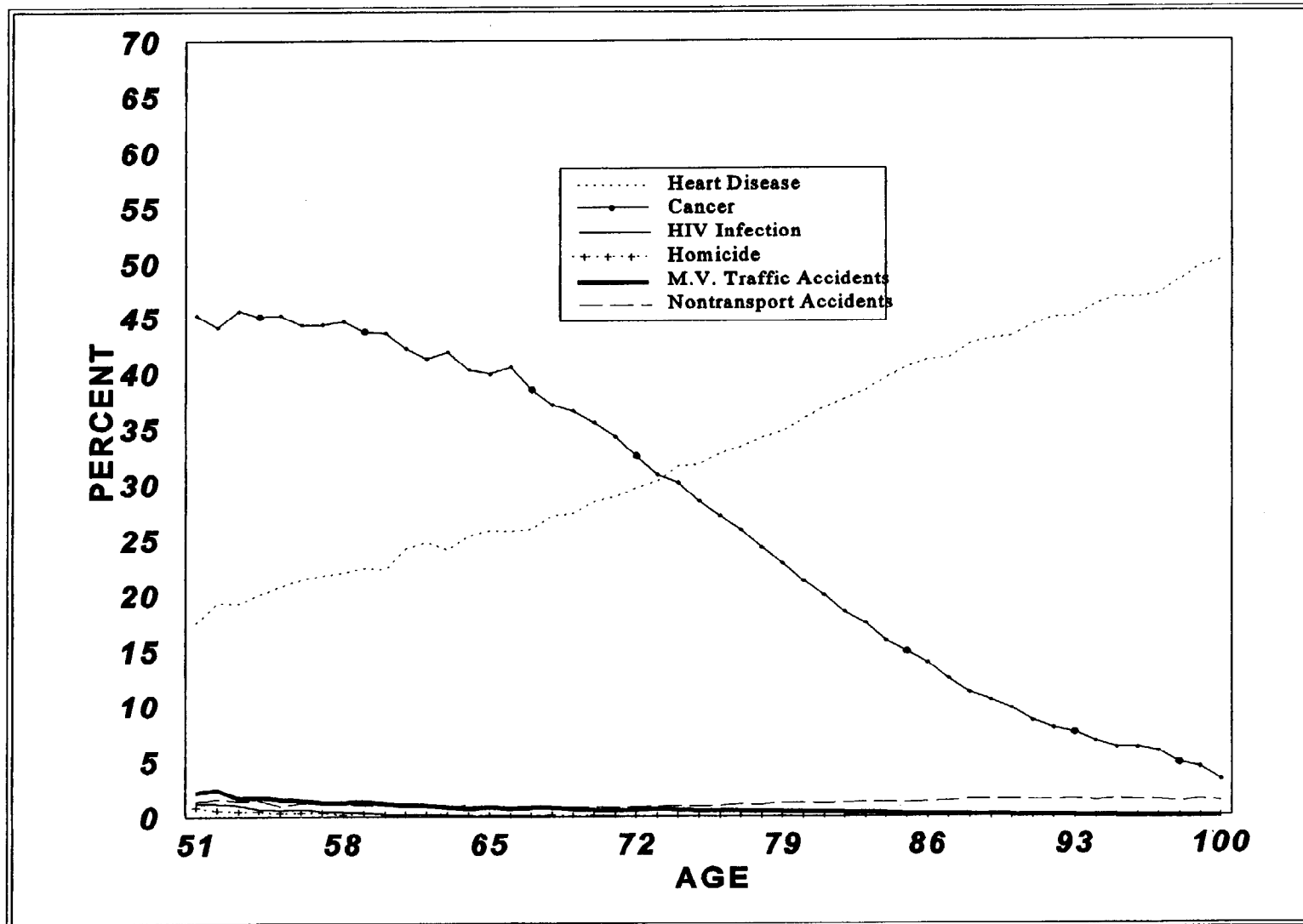


Exhibit 10 : Deaths from Six Leading Causes of Death as Percents of Total Deaths for Each Age, Ages 0-50, Females, 1994



**Exhibit 10 (Continued) : Deaths from Six Leading Causes of Death as Percents of Total Deaths for Each Age
Females, Ages 51-100+, 1994**



**Exhibit 11 : Deaths from Six Leading Causes of Death as Percents of Total Deaths for Each Age
Both Sexes, Ages 0-50, 1994**

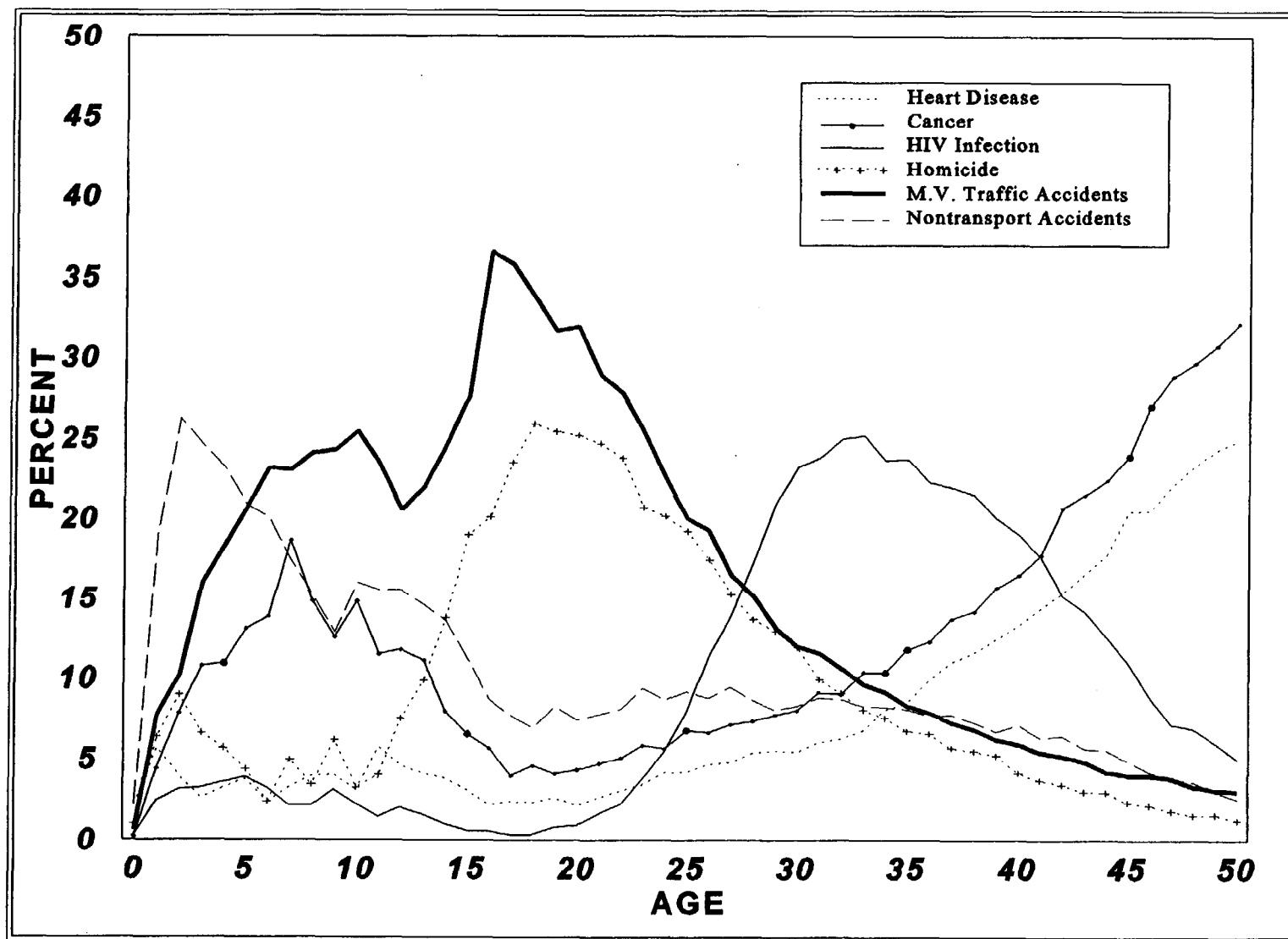


Exhibit 11 (Continued) : Deaths from Six Leading Causes of Death as Percents of Total Deaths for Each Age Both Sexes, Ages 51-100+, 1994.

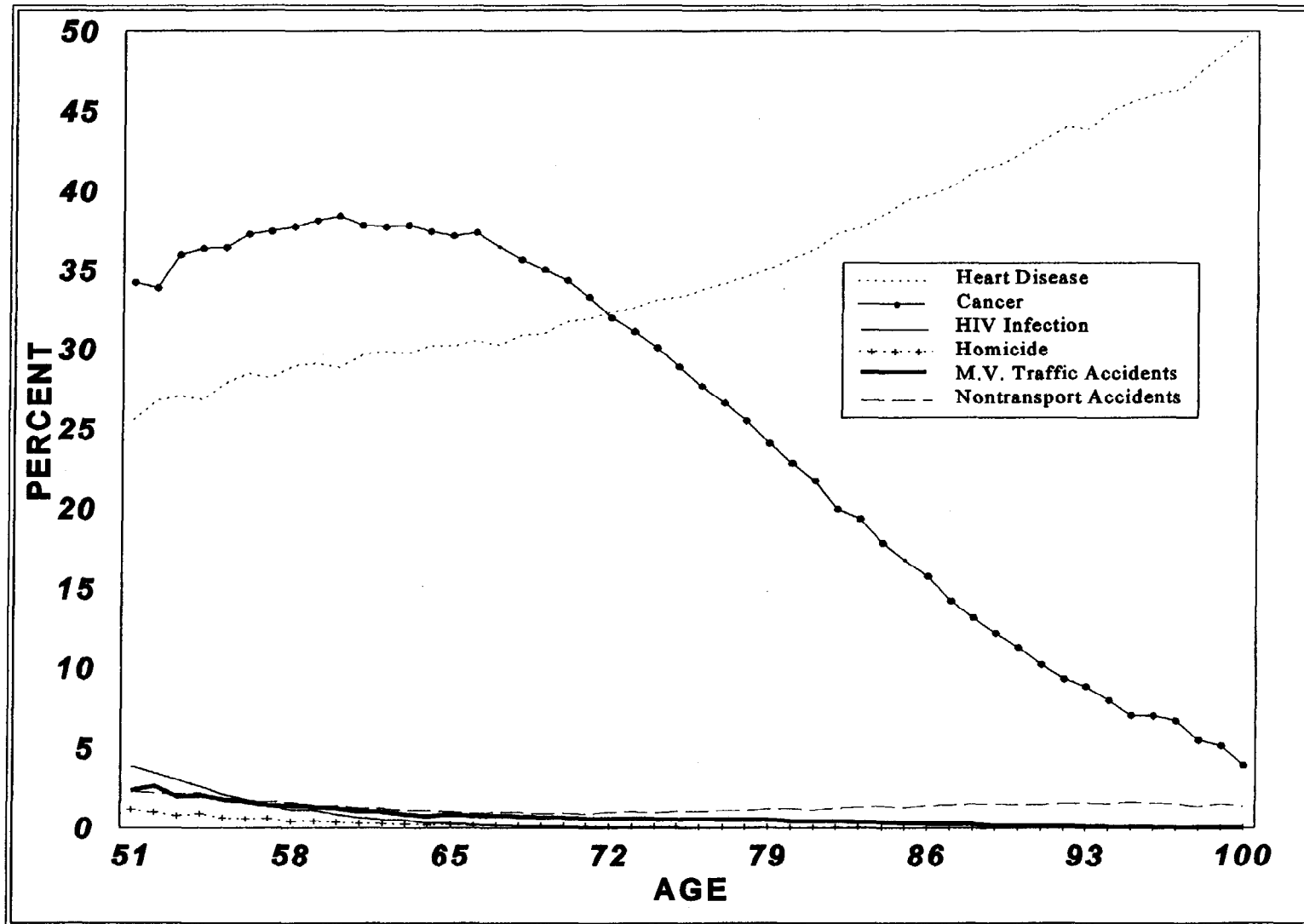


Exhibit 12 : Population Death Rates by Age for Six Leading Causes of Death, Males, 1994

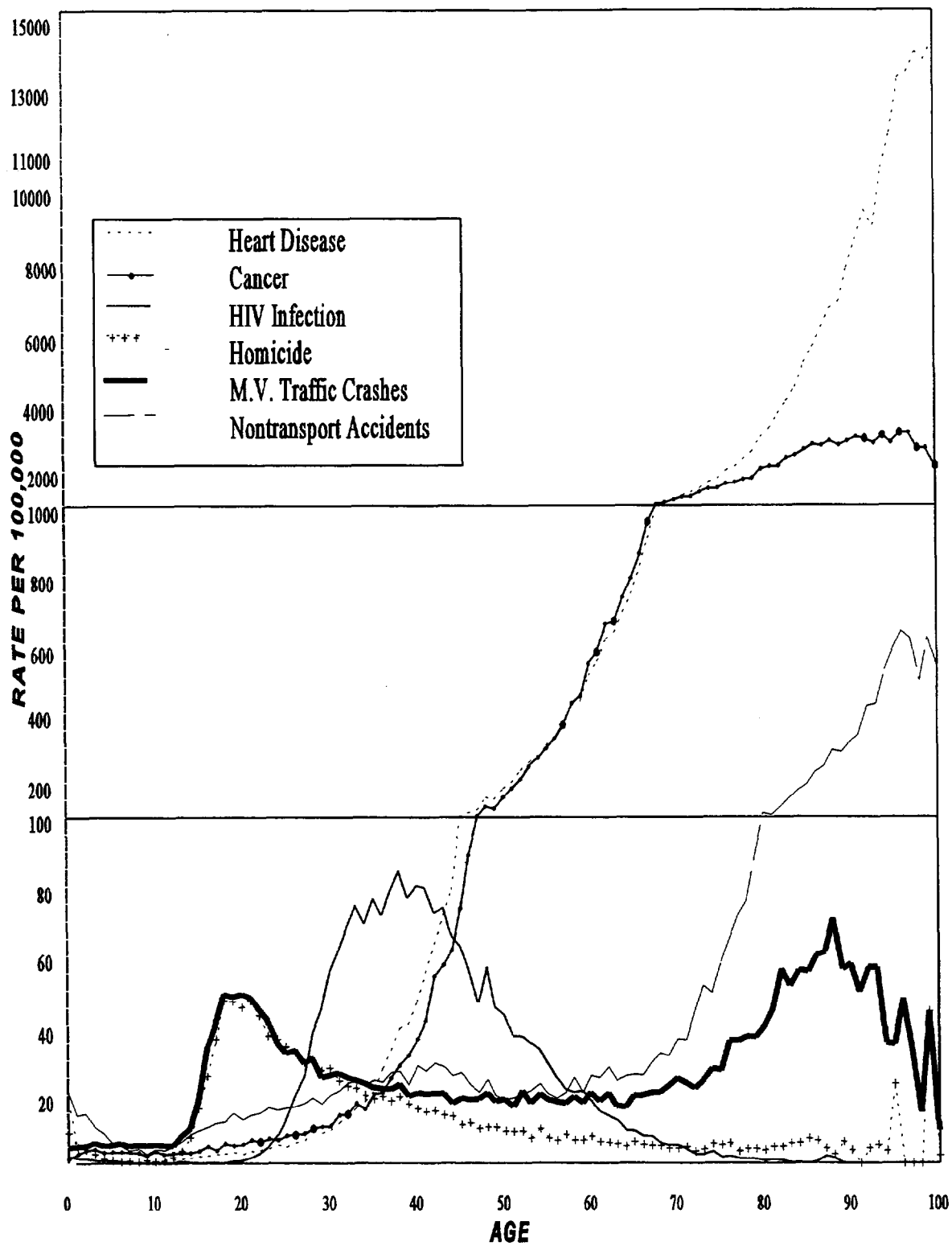
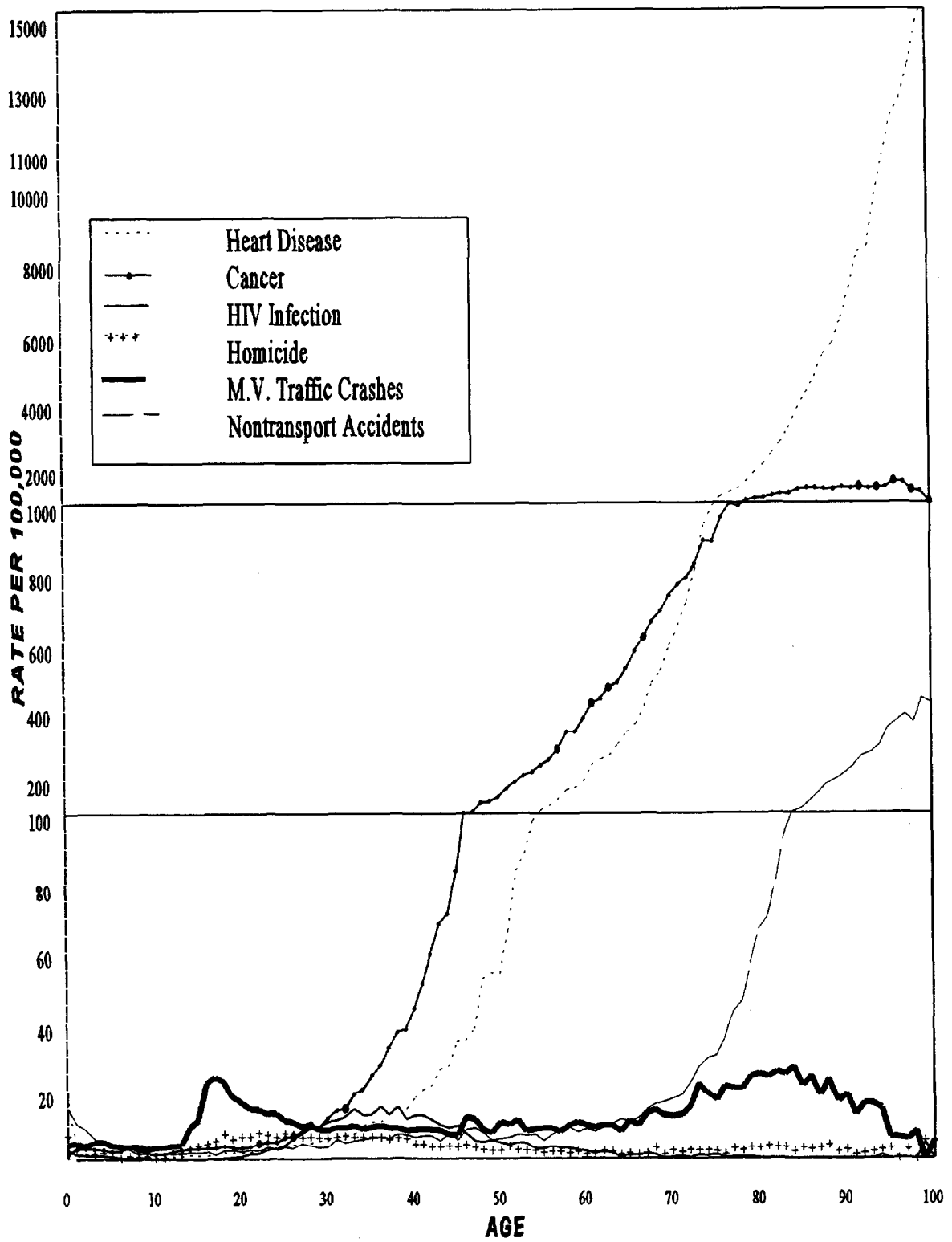
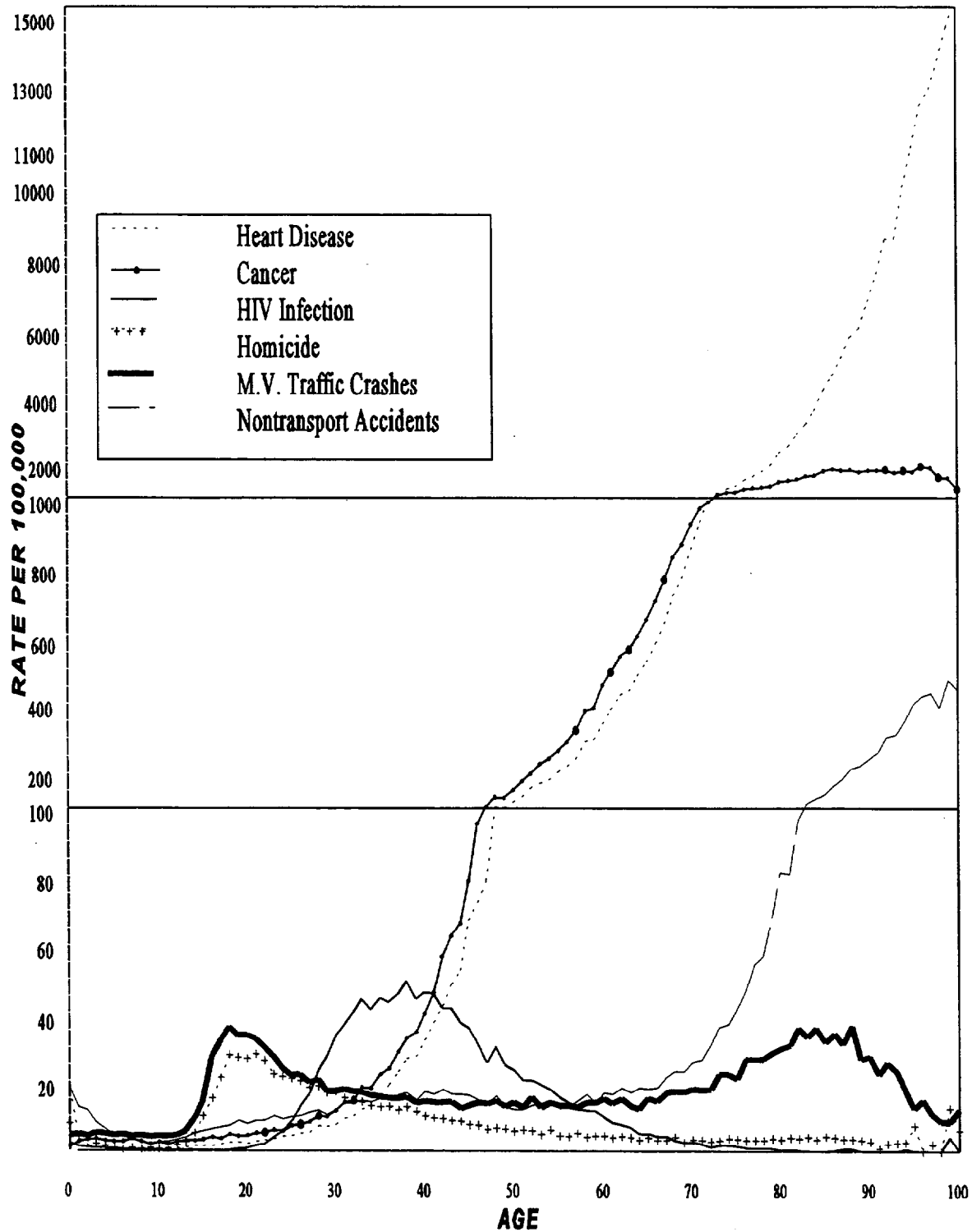


Exhibit 13 : Population Death rates by Age for Six Leading Causes of Death, Females 1994



**Exhibit 14 : Population Death Rates by Age for Six Leading Causes of Death
Both Sexes, 1994**



4. Motor Vehicle Traffic Crashes as a Major Cause of Death at Different Ages

Males

In 1994, motor vehicle traffic crashes were a major leading cause⁴ of male death for *every* age 1-42. For these ages, they accounted for 18,381 male victims or almost 65.9% of all male traffic deaths that occurred. The associated death rate was 22 traffic deaths for every 100,000 males ages 1-42 in the population.

They were the No. 1 cause of male death for *each* age 6-23 and 26. For these ages, traffic crashes were responsible for 8,560 or 27% of the total male deaths, and 10% more victims than the second leading cause (nontransport accidents for ages 6-14 and homicide for ages 15-23 and 26) as shown in Exhibit 15. The male risk at these ages was 24.0 traffic deaths for every 100,000 males in the population as shown in Exhibit 6. This death rate was more than the average risk of death from traffic crashes for males of all ages (24.0 versus 21.9). 30.7% of all male traffic deaths occurred in this age group.

For every other age in the interval 1-42 where traffic crashes were not the No.1 cause of male death, they nonetheless were a major cause of death for males with the following rankings: ranks 2-3 for ages 1-5, 24-25, 27-34 and ranks 4-6 for ages 35-42. For these ages, the male risk of traffic death was 20.5 and 9,821 additional males died in these crashes. This was about 35% of all the male traffic deaths for the year.

The incidence of male deaths from traffic crashes was greatest for ages 18-22, with a total of 4,341 victims that ranged from a low of 829 for age 22 to a high of 901 for age 19, for an average of approximately 868 deaths at each age. The male risk of traffic deaths for this age group was 47.8. This was 2.2 times the average risk of 21.9 for males of all ages. The highest male risk was 49.2 for age 18 and the lowest was 44.7 for age 22. For these ages (18-22), traffic crashes accounted for 29.3% of male deaths from all causes, and 22% more deaths than homicide (the No. 2 male cause for ages 18-22). 15.5% of the total male deaths from traffic crashes occurred in this age group. These data for male ages 18-22 are not shown per se in any of the tables in this report.

In 1994, for males aged 21-39, there was a high correlation between traffic deaths and deaths due to homicides; for most ages of this interval, the death counts associated with each cause were generally in very close agreement as shown in Exhibit 9. The 7 ages 21-27 are especially interesting. Homicide was the leading cause of male deaths for ages 24-25 and 27 and the No. 2 cause for ages 21-23 and 26. For traffic crashes, it was the reverse; the No. 2 cause of male death for ages 24-25 and 27 and the No.1 cause for ages 21-23 and 26. And for these seven ages 21-27, traffic crashes caused only 0.34% or only marginally more male deaths than homicide (4,960 versus 4,887).

⁴When not first-ranked, the importance of traffic crashes as a major leading cause of death relative to other causes has been determined by the evaluation of raw death counts or scores initially expressed as "Standard Scores". This is a statistical scoring procedure widely used in educational and psychological testing (Reference 4).

Females

In 1994, motor vehicle traffic crashes were a major leading cause of female death for *every* age 1-38. For these ages, they accounted for 6,887 female victims or almost 50.5% of all female traffic deaths that occurred. The associated death rate was 9.4 traffic deaths for every 100,000 females ages 1-38 in the population.

They were the No. 1 cause of female death for *each* ages 4-6 and 8-28. For these ages, traffic crashes were responsible for 4,563 or 27% of the total female deaths, and twice as many deaths as the second leading cause (nontransport accidents for ages 4-6 and 11, homicide for ages 15-26 and cancer for ages 8-10, 12-14 and 27-28) as shown in Exhibit 16. The female risk at these ages was 10.5 traffic deaths for every 100,000 females in the population as shown in Exhibit 7. This death rate is only slightly as great as the average of 10.2 traffic deaths per 100,000 population for females of all ages. 33.5% of all female traffic deaths occurred in this age group.

Traffic crashes ranked 2-3 as a leading cause of female death for ages 1-3, 7 and 29-33. They were a major cause of death at each of these ages, accounting for 1,337 female victims or about 9.8% of the total female traffic deaths for the year. The female risk of traffic death for these ages was 7.2 deaths per 100,000 females in the population.

Ages 16-20 had the highest incidence of female traffic deaths, 1,742 deaths for all five ages or exactly 2.0 times the average risk (20.4 and 10.2). This ranged from a low of 301 at age 20 to a high of 397 at age 17, for an average of approximately 348 traffic deaths for each age. Age 20 had the lowest risk, 17.6, while age 17 had the highest risk, 23.0. For this age group, traffic crashes accounted for 3.4 times as many female deaths as homicide (the No. 2 cause), 42.4% of the female deaths, and 12.8% of the female traffic deaths for all ages.

For females in 1994, traffic crash deaths were relatively uncorrelated with homicides for most ages as shown in Exhibit 10, as opposed to the male experience. Homicide was the second-ranked cause of female deaths for every age 15-26, accounting for 1,370 deaths (Exhibit 7). For the same age interval, however, traffic crashes as the No. 1 cause accounted for 3,388 female deaths or nearly 2.5 times as many deaths as Homicide (Exhibit 16).

Both Sexes Combined

In 1994, for both sexes combined and similar to males, traffic crashes were a major leading cause of death for every age 1-41. For this age group, they not only claimed a total of 25,383 victims, with an overall risk of 15.8 deaths per 100,000 persons aged 1-41 in the population, but also accounted for nearly 61.1% of all traffic deaths that occurred.

For both sexes combined, traffic crashes were the leading cause of death for *every* age 6-27 and

claimed 14,666 lives for the age group. This was 26.4% of all the deaths occurring at these ages and 35.3% of total traffic deaths for the year as shown in Exhibit 8. The risk of traffic deaths for this age group was 18.1 deaths per 100,000 population, which is almost 14% as great as the average risk of traffic deaths for persons of all ages (18.1 versus 15.9). Second-ranked causes for ages 6-27 were nontransport accidents for ages 6 and 8-13, cancer for age 7 and homicide for ages 14-27 as shown in Exhibit 17.

Ages 17-21 had the highest incidence of traffic death (5,934 victims), for an average of approximately 1,187 deaths at each age. This ranged from a low of 1,152 at age 17 to a high of 1,222 at age 18. Age 22 had the highest count outside this age-group and accounted for 1,101 traffic deaths. The traffic crash death rates for these five ages averaged 33.6, or about 2.1 times the average risk (15.9), with a high of 33.7 for age 20 and a low of 32.2 for age 17. For this age-group, traffic crashes claimed 22.6% more victims than homicide (the No.2 cause), 32.2% of all deaths and 14.2% of the traffic death total for the year.

5. Traffic Crashes not a Major Cause of Death

Infants Under 1

In 1994, for this age group, traffic crashes ranked 15th as a cause of death for both sexes combined (17th for males and 13th for females) and were responsible for only 181 deaths, 95 male and 86 female, or 0.6% of all infant deaths at this age as depicted in Exhibit 17. They were not a major cause of death of infants under 1 year of age in 1994. This is generally true for any given calendar year.

As expected, conditions connected with birth or pre-birth which have a later fatal effect were by far the leading cause of death. These perinatal conditions accounted for 14,315 out of a total of 31,170 infant deaths for the year, or about 45% of all male and female deaths at this age, and caused an average of 371 infant deaths (409 male and 332 female) for every 100,000 births occurring during the year⁵.

Males aged 43 and above

Traffic crashes were not a major cause of death for males at any age above 42 in 1994. By age 43, they ranked a distant sixth to heart disease, the leading male cause at this age that claimed 3.5 times as many lives. In general, traffic crashes ranked 6-9 as a cause of male death for ages 43-54; they ranked 10-14 for ages 55-69 and ranked 15-43 for all males aged above 43. Even though 9,006 male traffic deaths, or 32.3% of the total male traffic deaths, occurred after age 42, this was less than 1% (0.90%) of all male deaths at these ages. As previously indicated, either heart disease or cancer was the top-ranked cause of male death for all ages 43 and above.

⁵Because death from perinatal conditions occur mainly among infants under 1 year of age (98.8%) occurrence in 1994, mortality from this cause is measured by number of deaths per 100,000 births.

Females aged 39 and above

Traffic crashes did not rank as a major cause of female death at any age above 38 in 1994. By age 39, they ranked a distant fourth to cancer, the leading female cause at this age that claimed 4.9 times as many lives. In general, traffic crashes ranked 4-18 for ages 39-73 and 20-62 for ages 74 and above. Even though 6,648 female traffic deaths, or 48.8% of the total, occurred after age 38, this was only 0.6% of all female deaths for the age group. As indicated earlier, cancer was the first ranked cause of female death for ages 39-73 followed by heart disease for all ages above 73.

Ages 42 and above for Both Sexes Combined

In 1994, traffic crashes were not a major cause of death at any age above 41 for both the sexes combined. At age 42, cancer, the leading cause, claimed about 4.0 times as many victims as traffic crashes. In general, for both sexes combined in 1994, traffic crashes ranked 6-15 for ages 42-71 and 16-62 for ages 72 and above. Even though 15,910 traffic deaths, or 38% of the total for all ages, occurred above the age of 41, this was less than 1% (0.77%) of all deaths for this age group. The leading causes of death for these ages were: cancer for ages 42-71 and heart diseases for all ages above 71.

6. Comparison of Traffic Crashes as a Cause of Death for Males and Females at the Same Age at Different Age Levels

A comparison of traffic deaths and death rates for males and females of all ages in 1994 has been presented in section 2 of this report. A generally similar comparison is presented below for different age levels, and it seems appropriate to make this comparison for the exact same ages in 1994 where, for both sexes, traffic crashes were a major or minor cause of death. As shown above, for ages 1-38, traffic crashes were a major cause of death for both sexes and, for ages 43 and over, a minor cause. This excludes ages 39-42 from the following analysis. In addition, since the effect of traffic crashes on infants less than 1 year of age is essentially the same and relatively minor for both males and females, regardless of the calendar year, this group is also excluded.

Ages 1-38

In 1994, traffic crashes were a major leading cause of male and female deaths for each age 1-38, accounting for 16,713 and 6,887 deaths, respectively, in this age group. This represents about 16% of all deaths for each sex at these ages, and 60% and 50%, respectively of all male and female traffic deaths that occurred. The corresponding male and female traffic crash death rates were 22.2 and 9.4, respectively. Therefore in 1994, for ages 1-38, 2.4 times as many males as females were killed in traffic crashes and, in view of the generally similar age composition⁶ of the male and female populations at these ages, the male risk of traffic death was also about 2.4 times the female risk (22.4

⁶Population size and proportion of total population for each specific age or subgroup of the age interval.

versus 9.4).

Ages 43 and above

In 1994, traffic crashes were a minor cause of death for both sexes aged 43 and above. For these ages, they caused 9,377 or 0.9% of all male and 5,975 or 0.6% of all female deaths that occurred. Corresponding male and female traffic death rates were 22.4 and 12.0, respectively. Therefore, for ages 43 and above, relatively few persons died as a result of traffic crashes compared to the number dying from major causes such as heart disease, cancer and stroke. Also, only 57% more males than females died in traffic crashes. Nonetheless, the traffic death tolls for these ages represent 34% and 44%, respectively, of all male and female traffic deaths that occurred, and the male risk of traffic death was still almost twice the female risk (22.4 versus 12.0).

Comparing the overall results of traffic crashes in 1994 for males and females in these two age groups (1-38, and 43 and above), the following should be noted:

- There were significantly fewer traffic deaths after age 42 for both sexes, but the decrease was greater for males, 44% compared to only 13% for females. Thus, the ratio of male to female traffic deaths declined by 35% after age 42, from 2.4 for ages 1-38 to 1.5 for the older age group.
- While the male risk of traffic death increased slightly by about 0.9%, from 22.2 for ages 1-38 to 22.4 after age 42, the female risk actually increased by 27% (from 9.4 to 12.0).
- The male risk of traffic death relative to the female risk declined only 17%, from 2.4 for ages 1-38 to 2.0 after age 42, and this was mostly due to significant increase in the female risk after age 42.

In U.S. in recent years, age 29, 30 or 31 has been the pivotal age for differences in the composition of the male and female populations. Prior to this age, there are somewhat fewer females than males, though the ratio is rarely less than 0.95 to one. Women, however tend to live longer than men (refer to discussion of life expectancies). So, after this pivotal age, the female population begins to slowly outstrip the males until, by age 91-93, the ratio of females to males in the population generally exceeds three to one.

In view of these current population differences between males and females, it is entire reasonable to ask if such differences could have contributed to the significant differences noted above. One approach to this problem is to apply the death rate obtained for each age or age interval of the male population to the corresponding age or age interval of the female population, and obtain an age-adjusted or *standardized* average male death rate in the female population, now considered as the *standard* population. This procedure controls for differences in population composition between males and females relative to age, and produces an age-adjusted or age-standardized average male death rate which is directly comparable to the average female death rate for the age group in question.

Application of this procedure to the traffic mortality and population data for 1994 indicates the following:

- For ages 1-38, the differences in the standard (female) versus the actual (male) population were only slight: a total of 16,322 vs. 16,713 deaths, respectively, with an associated age-adjusted traffic crash death rate of 22.4 vs. an unadjusted rate of 22.2.
- For ages 43 and above, the differences for males in the standard versus the actual population were significant: a total of 13,952 vs. 9,377 traffic deaths, respectively, with an associated age-adjusted risk of traffic death of 25.0 vs. An unadjusted risk of 22.4.
- Therefore for ages 43 and above as compared to ages 1-38 in the standard population, the following differences in male traffic crash deaths and death rate that would have occurred in 1994:
 - (a) A 15% decrease in deaths (from 16,322 to 13,952), rather than the 44% decrease (from 16,322 to 9,377) that actually did occur.
 - (b) A 11.6% increase in the risk of traffic death (from 22.4 to 25.0), rather than the 0.9% increase (from 22.2 to 22.4) that actually did occur.
- It should also be noted that increased longevity for both sexes could result in significant increases in traffic deaths for older persons. This is based on the assumption that death occurrence rates for older persons involved in traffic crashes will not change appreciably with increased longevity. As indicated above, if in the U.S, in 1994, men lived as long as women, this could have resulted in about 13,952 male traffic deaths for ages 43 and above. This represents a 49% increase over the 9,377 male traffic deaths which actually did occur at these ages, with an associated 11.6% increase in the male risk of traffic death from 22.4 to 25.0 deaths per 100,000 males in the population.

**Exhibit 15 : Deaths, Percents of Total Deaths and Death Rates for Motor Vehicle Traffic Crashes by Specific Ages and Sex.
Comparison with Leading or Second Leading Cause of Death for Each Age Group, United States, 1994, Males**

Age Group (1)	Rank Order (2)	Number of Deaths (3)	% of Total for Age-Group (4)	% of Total for Traffic crashes (5)	Death Rate ¹ (6)	Cause of Death (7)	Rank Order (8)	Number of Deaths (9)	Ratio (2) / (8)
Motor Vehicle Traffic Crashes						Leading or 2nd Leading Cause of Death			
Under 1	17	95	0.5	0.3	4.8	Perinatal Conditions	1	8,057	0.01
1-5	2-3	546	12.5	2.0	5.4	Nontransport Accidents	1	1,092	0.50
6-14	1	1,093	23.4	3.9	6.4	Nontransport Accidents	2	842	1.29
15-23	1	6,860	29.0	24.6	41.4	Homicide	2	6,309	1.09
24-25	2	1,296	21.1	4.6	33.4	Homicide	1	1,359	0.95
26	1	607	19.6	2.2	32.9	Homicide	2	597	1.02
27	2	549	16.9	2.0	29.0	Homicide	1	557	0.99
28-43	2-6	7,801	8.2	28.0	23.1	HIV	1	23,431	0.33
44-53	7-9	2,868	3.4	10.3	18.7	Heart Disease	1	23,294	0.12
54	9	233	2.3	0.8	20.2	Cancer	1	3,112	0.07
55-56	10	400	1.9	1.4	18.2	Heart Disease	1	6,949	0.06
57	10	182	1.6	0.7	17.5	Cancer	1	3,801	0.05
58	10	189	1.5	0.7	19.6	Heart Disease	1	4,135	0.05
59-69	10-14	1,991	0.9	7.1	19.4	Cancer	1	77,093	0.03
70-100+	15-43	3,143	0.5	11.3	35.0	Heart Disease	1	234,480	0.01

¹Crude death rate per 100,000 population in age-sex group.

**Exhibit 16 : Deaths, Percents of Total Deaths and Death Rates for Motor Vehicle Traffic Crashes by Specific Ages and Sex.
Comparison with Leading or Second Leading Cause of Death for Each Age Group, United States, 1994, Females**

Age Group (1)	Rank Order (2)	Number of Deaths (3)	% of Total for Age-Group (4)	% of Total for Traffic crashes (5)	Death Rate ¹ (6)	Cause of Death (7)	Rank Order (8)	Number of Deaths (9)	Ratio (2) / (8)
Motor Vehicle Traffic Crashes						Leading or 2nd Leading Cause of Death			
Under 1	13	86	0.6	0.6	4.6	Perinatal Conditions	1	6,258	0.01
1-3	2-3	261	10.6	1.9	4.5	Nontransport Accidents	1	487	0.54
4-6	1	239	20.1	1.8	4.2	Nontransport Accidents	2	204	1.17
7	2	65	20.8	0.5	3.6	Cancer	1	67	0.97
8-10	1	184	22.7	1.4	3.4	Cancer	2	112	1.64
11	1	60	22.9	0.4	3.3	Nontransport Accidents	2	31	1.94
12-14	1	301	25.0	2.2	5.5	Cancer	2	150	2.01
15-26	1	3,388	31.8	24.9	15.9	Homicide	2	1,370	2.47
27-28	1	391	15.2	2.9	10.5	Cancer	2	334	1.17
29	2	198	13.3	1.5	9.3	HIV	1	205	0.97
30-73	3-18	6,405	1.8	47.0	9.4	Cancer	1	137,095	4.67
74-100+	20-62	2,043	0.3	15.0	20.1	Heart Diseases	1	284,345	0.01

¹Crude death rate per 100,000 population in age-sex group.

**Exhibit 17 : Deaths, Percents of Total Deaths and Death Rates for Motor Vehicle Traffic Crashes by Specific Ages and Sex.
Comparison with Leading or Second Leading Cause of Death for Each Age Group, United States, 1994, Both Sexes**

Age Group (1)	Rank ¹ Order (2)	Number of Deaths (3)	% of Total for Age-Group (4)	% of Total for Traffic crashes (5)	Death Rate ² (6)	Cause of Death (7)	Rank Order (8)	Number of Deaths (9)	Ratio (2) / (8)
Motor Vehicle Traffic Crashes						Leading or 2nd Leading Cause of Death			
Under 1	15	181	0.6	0.4	4.7	Perinatal Conditions	1	14,315	0.01
1-5	2-3	977	12.7	2.4	5.0	Nontransport Accidents	1	1,722	0.57
6	1	186	23.1	0.4	4.9	Nontransport Accidents	2	161	1.16
7	1	163	23.0	0.4	4.4	Cancer	2	132	1.23
8-13	1	1,064	23.1	2.6	4.8	Nontransport Accidents	2	689	1.54
14-27	1	13,253	26.8	31.9	25.9	Homicide	2	10,523	1.26
28-40	2-6	9,177	9.0	22.1	16.3	HIV	1	22,616	0.41
41-71	6-15	11,331	1.6	27.3	14.2	Cancer	1	251,961	0.04
72-100+	16-62	5,142	0.4	12.4	26.3	Heart Diseases	1	513,918	0.01

¹Rank Based on number of deaths for each age of age-sex group.

²Crude death rate per 100,000 population in age-sex group.

7. Traffic Crash Deaths and Death Rates for Older Persons

Even though traffic crashes, when compared to other causes of death in 1994, were not a major factor for males and females above the ages of 42 and 38 respectively, it is interesting to note that involvement in traffic crashes does not disappear with advancing age. This is a trend for females, as evidenced by the 1994 mortality experience. Thus, while less than 1% of all deaths occurring above these ages were due to traffic crashes, nonetheless the additional 9,006 male and 6,648 female traffic deaths that did occur amounted to 32% and 49%, respectively, of all male and female victims of these crashes (Exhibits 6 and 7). For males, 69% of these additional traffic deaths occurred with a generally uniform distribution of death rates between the ages of 43 and 69. For females, 50% of the additional deaths occurred, also with a fairly uniform risk, between the ages of 43 and 69.

The above figures, however, can easily be misinterpreted in that they give no indication that the risk of death from traffic crashes, while decreasing as expected for middle-aged persons, actually *increases* for older-aged persons. Exhibits 18 and 19, which list population death rates and other mortality statistics related to traffic crashes in 1994 by 5-year age groups for males and females, respectively, show this rate increase for persons aged 70 and above. Exhibit 20 presents similar data for both sexes combined. This pattern of above average risk in traffic crashes for older persons is also clearly evident from Exhibit 21, which presents the same risk data as Exhibits 18-20, but for each specific age in 1994.

The increased death rates for older persons generally occur for any given year. For males 70 and above in 1994, the traffic crash death rate was 35.0, or 60% above the average for males of all ages (35.0 versus 21.9). It is to be noted that for males aged 43-69, on the other hand, the death rate was 19.0 or about 13% below average. For females aged 70 and above in 1994, the death rate was 18.7, or almost 83% above the average for females of all ages (18.7 versus 10.2). For females aged 39-69, the risk was only 9.1 or about 11% below average.

The above average risk of death from traffic crashes for older persons undoubtedly reflects to a great extent both the disproportionate increase in pedestrian deaths for these ages and the fact that older compared to younger persons are physically less able to withstand the trauma resulting from involving in motor vehicle traffic crashes. Thus, severe injuries sustained in these crashes by older and younger persons are much more likely to prove fatal for the older person. It is estimated that while this increased risk or *age-related* trauma may account for nearly one-half of all traffic deaths at these older ages, this is only a very small portion of the traffic deaths that occur.

Exhibit 18 : Deaths, Percents of Total Deaths and Death Rates for Motor Vehicle Traffic Crashes, by 5-Year Age Group and Sex, United States, 1994, Males

Age Group	Rank Order	Number of Deaths¹	% of Total for age group	% of total for MVTA	Death Rate²
All Ages	8	27,882	2.4	100.0	21.9
Under 1	17	95	0.5	0.3	4.8
1-4	2	438	11.4	1.6	5.4
5-9	1	532	24.3	1.9	5.5
10-14	1	669	22.3	2.4	7.0
15-19	1	3,465	30.3	12.4	38.0
20-24	1	4,084	26.7	14.6	43.3
25-29	2	2,859	16.7	10.3	29.7
30-34	2	2,744	10.5	9.8	24.8
35-39	6	2,364	7.4	8.5	21.6
40-44	6	1,933	5.3	6.9	19.8
45-49	7	1,558	3.9	5.6	19.0
50-54	9	1,207	2.6	4.3	18.8
55-59	10	955	1.6	3.4	18.2
60-64	10	877	1.0	3.1	18.5
65-69	13	930	0.8	3.3	20.7
70-74	16	920	0.6	3.3	24.3
75-79	23	903	0.6	3.2	34.0
80-84	22	754	0.5	2.7	48.6
85 & Over	28	566	0.3	2.0	57.2

¹Residents of the U.S. only (50 states and the District of Columbia).

²Crude Rate per 100,000 population in age-sex group.

Exhibit 19 : Deaths, Percents of Total Deaths and Death Rates for Motor Vehicle Traffic Crashes, by 5-Year Age Group and Sex, United States, 1994, Females

Age Group	Rank Order	Number of Deaths¹	% of Total for age group	% of total for MVTA	Death Rate²
All Ages	9	13,625	1.2	100.0	10.2
Under 1	13	86	0.6	0.6	4.6
1-4	3	359	12.1	2.6	4.6
5-9	1	325	20.8	2.4	3.6
10-14	1	426	24.8	3.1	4.7
15-19	1	1,631	42.5	12.0	19.0
20-24	1	1,341	28.9	9.8	14.9
25-29	1	1,005	16.1	7.4	10.5
30-34	3	1,014	10.3	7.4	9.1
35-39	4	959	7.0	7.0	8.7
40-44	4	793	4.7	5.8	8.0
45-49	4	722	3.2	5.3	8.5
50-54	7	612	2.2	4.5	9.0
55-59	7	509	1.4	3.7	8.9
60-64	11	516	0.9	3.8	9.7
65-69	14	673	0.8	4.9	12.3
70-74	18	771	0.6	5.7	15.6
75-79	25	781	0.5	5.7	19.9
80-84	26	667	0.4	4.9	23.9
85 & Over	41	431	0.1	3.2	16.9

¹Residents of the U.S. only (50 states and the District of Columbia).

²Crude Rate per 100,000 population in age-sex group.

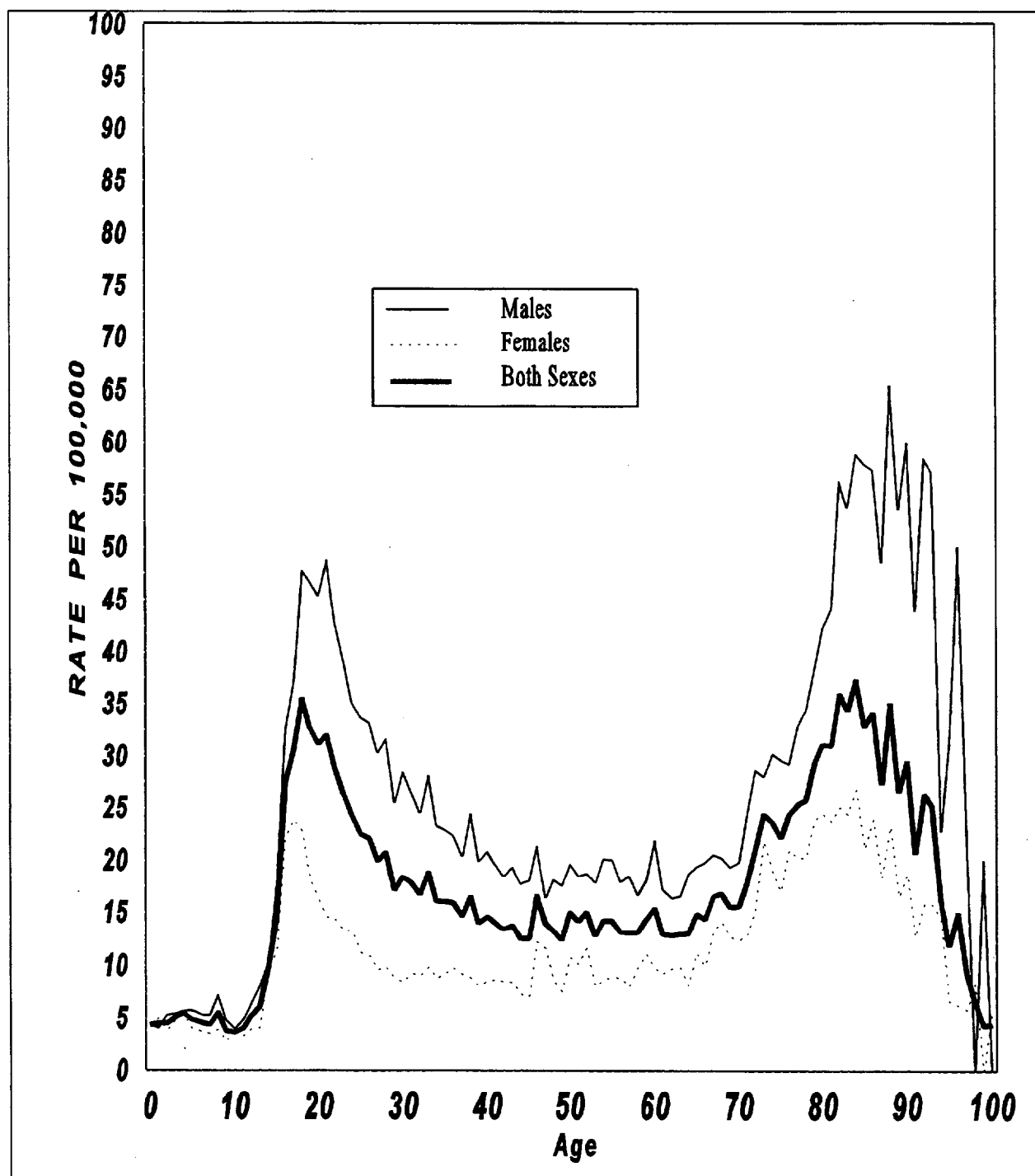
Exhibit 20 : Deaths, Percents of Total Deaths and Death Rates for Motor Vehicle Traffic Crashes, by 5-Year Age Group and Sex, United States, 1994, Both Sexes

Age Group	Rank Order	Number of Deaths ¹	% of Total for age group	% of total for MVTA	Death Rate ²
All Ages	9	41,507	2.4	100.0	15.9
Under 1	15	181	0.6	0.4	4.7
1-4	2	797	11.7	1.9	5.0
5-9	1	857	22.9	2.1	4.6
10-14	1	1,095	23.2	2.6	5.9
15-19	1	5,096	33.3	12.3	28.8
20-24	1	5,425	27.2	13.1	29.4
25-29	1	3,864	16.5	9.3	20.2
30-34	2	3,758	10.5	9.1	17.0
35-39	6	3,323	7.3	8.0	15.1
40-44	6	2,726	5.1	6.6	13.8
45-49	8	2,280	3.7	5.5	13.7
50-54	8	1,819	2.4	4.4	13.8
55-59	8	1,464	1.5	3.5	13.4
60-64	9	1,393	1.0	3.4	13.8
65-69	14	1,603	0.8	3.9	16.1
70-74	15	1,691	0.6	4.1	19.4
75-79	22	1,684	0.5	4.1	25.6
80-84	25	1,421	0.4	3.4	32.7
85 & Over	35	997	0.2	2.4	28.2

¹Residents of the U.S. only (50 states and the District of Columbia).

²Crude Rate per 100,000 population in age-sex group.

Exhibit 21 : Population Death Rates for Motor Vehicle Traffic Crashes by Specific Age and Sex, 1994.



8. Motor Vehicle Traffic Crashes as a Major Cause of Death at Different Ages, by Race and Ethnic Origin

This section presents 1994 data on U.S. deaths for the 6 leading causes of death and/or the deaths due to motor vehicle traffic crashes according to the demographical characteristics of race and Hispanic origin. Beginning with the 1992 data, the National Center for Health Statistics (NCHS) started reporting Asian/Pacific Islander codes for the race of the deceased in addition to the race codes for Whites, African Americans and American Indians. The code for American Indians includes Eskimos and Aleuts. This race code has been used to derive the statistics presented along race characteristics in the following sections.

Whites

In 1994, there were 23,255 male deaths and 11,448 female deaths due to motor vehicle traffic crashes for people classified as whites. This was 2.4% and 1.2% of all the male and female white deaths, respectively. The corresponding crude death rates per 100,000 resident white population was 21.9 for males and 10.4 for females.

Motor vehicle traffic crashes were the No.1 cause of white male deaths for each age 6-27. For these ages, traffic crashes were responsible for 8,668 deaths or 30.7% of all male deaths at these ages. This was 73.7% more than the number of victims due to the No.2 cause (Suicide) at these ages.

They were the No.1 cause of female white deaths for each age 4-6 and 8-29. For these ages, traffic crashes were responsible for 3,956 deaths or 30.7% of all female deaths at these ages. This was 166% more than the number of victims due to the No.2 cause (cancer) at these ages.

For both sexes combined, they were the No.1 cause of white deaths for each age 5-28. For these ages, traffic crashes were responsible for 12,953 deaths or 29.5% of all deaths in both sexes at these ages. This was 104.2% more than the number of victims due to the No.2 cause (Suicide) at these ages.

Exhibits 22-24 present statistics on the deaths caused by the 6 leading causes of death for white males, females and both sexes for 1994. The age-adjusted death rates of 21.7 and 9.8 due to motor vehicle traffic crashes for males and females, respectively, were close to age-adjusted death rates for all victims (all races) due to motor vehicle traffic crashes (21.8 and 9.8). Overall, among victims of white race, they were the 7th leading cause of death for males and 10th for females of all ages.

Exhibit 22: Deaths, Percents of Total Deaths and Death Rates for the 6 Leading Causes of Death for Persons All Ages, by Sex, United States, 1994

WHITE Male Deaths

Cause of Death	Rank Order	Number of Deaths	% of Total Deaths	Age-Adjusted Death Rates
All Causes		988,823	100.0	617.9
Diseases of the Heart	1	318,543	32.2	183.6
Malignant Neoplasms (Cancer)	2	242,995	24.6	154.3
Stroke	3	51,009	5.2	26.6
Chronic Obstructive Pulmonary Disease	4	49,226	5.0	27.3
Pneumonia	5	32,252	3.3	15.7
Nontransport Accidents	6	23,920	2.4	18.4
Motor Vehicle Traffic Crashes	7	23,255	2.4	21.7

Exhibit 23 : Deaths, Percents of Total Deaths and Death Rates for the 6 Leading Causes of Death for Persons of All Ages, by Sex, United States, 1994

WHITE Female Deaths

Cause of Death	Rank Order	Number of Deaths	% of Total Deaths	Age-Adjusted Death Rates
All Causes		971,052	100.0	364.9
Diseases of the Heart	1	327,513	33.7	96.1
Malignant Neoplasms (Cancer)	2	222,802	22.9	110.0
Stroke	3	81,488	8.4	22.8
Chronic Obstructive Pulmonary Diseases	4	44,847	4.6	17.3
Pneumonia	5	39,176	4.0	9.9
Diabetes	6	25,259	2.6	10.5
Motor Vehicle Traffic Crashes	10	11,448	1.2	9.8

**Exhibit 24 : Deaths, Percents of Total Deaths and Death Rates for the 6 Leading Causes of
Death for Persons of All Ages, by Sex, United States, 1994
WHITE Deaths (Both Sexes)**

Cause of Death	Rank Order	Number of Deaths	% of Total Deaths	Age-Adjusted Death Rates
All Causes		1,959,875	100.0	479.8
Diseases of the Heart	1	646,056	33.0	135.5
Malignant Neoplasms (Cancer)	2	465,797	23.8	128.6
Stroke	3	132,497	6.8	16.5
Chronic Obstructive Pulmonary Disease	4	94,073	4.8	24.5
Pneumonia	5	71,428	3.6	12.3
Diabetes	6	45,650	2.3	11.5
Motor Vehicle Traffic Crashes	8	34,703	1.8	15.8

African-Americans

In 1994, there were 3,643 male deaths and 1,625 female deaths due to motor vehicle traffic crashes for people of African-American race. This was 2.4% and 1.3% of all the male and female African-American deaths, respectively. The corresponding crude death rates per 100,000 resident African-American population was 23.5 for males and 9.5 for females.

Motor vehicle traffic crashes were the No.1 cause of African-American male deaths for each age 6, 7 and 9. For these ages, traffic crashes were responsible for 77 deaths or 24.4% of all male deaths at these ages. This was 4.1% more than the number of victims due to the No.2 cause (Nontransport Accidents) at these ages.

They were the No.1 cause of female African-American deaths for each age 5, 8-9 and 12. For these ages, traffic crashes were responsible for 66 deaths or 21.7% of all female deaths at these ages. This was 43.4% more than the number of victims due to the No.2 cause (Nontransport Accidents) at these ages.

For both sexes combined, they were the No.1 cause of African-American deaths for each age 8-9 and 12. For these ages, traffic crashes were responsible for 116 deaths or 22.5% of all deaths in both sexes at these ages. This was 12.6% more than the number of victims due to the No.2 cause (Nontransport Accidents) at these ages.

Exhibits 25-27 present statistics on the deaths caused by the 6 leading causes of death for African-American males, females and both sexes for 1994. The age-adjusted death rates of 24.3 and 9.4 due to motor vehicle traffic crashes for males and females , respectively, were different from the age-adjusted death rates for all victims (all races) due to motor vehicle traffic crashes (21.8 and 9.8). Overall, among African-American victims, they were the 10th leading cause of death for males and 15th for females of all ages.

Exhibit 25 : Deaths, Percents of Total Deaths and Death Rates for the 6 Leading Causes of Death for Persons All Ages, by Sex, United States, 1994
African-American Male Deaths

Cause of Death	Rank Order	Number of Deaths	% of Total Deaths	Age-Adjusted Death Rates
All Causes		152,950	100.0	1029.9
Diseases of the Heart	1	37,225	24.3	572.0
Malignant Neoplasms (Cancer)	2	32,856	21.5	232.1
HIV	3	12,243	8.0	81.8
Homicide and Legal Intervention	4	10,075	6.6	66.1
Stroke	5	7,826	5.1	52.3
Nontransport Accidents	6	4,914	3.2	32.4
Motor Vehicle Traffic Crashes	10	3,641	2.4	24.3

Exhibit 26 : Deaths, Percents of Total Deaths and Death Rates for the 6 Leading Causes of Death for Persons of All Ages, by Sex, United States, 1994
African-American Female Deaths

Cause of Death	Rank Order	Number of Deaths	% of Total Deaths	Age-Adjusted Death Rates
All Causes		129,334	100.0	572.0
Diseases of the Heart	1	39,603	30.6	158.0
Malignant Neoplasms (Cancer)	2	27,076	20.9	133.8
Stroke	3	10,194	7.9	40.1
Diabetes	4	6,014	4.7	27.4
HIV	5	3,834	3.0	21.9
Pneumonia	6	3,547	2.7	12.7
Motor Vehicle Traffic Crashes	15	1,624	1.3	9.4

Exhibit 27 : Deaths, Percents of Total Deaths and Death Rates for the 6 Leading Causes of Death for Persons of All Ages, by Sex, United States, 1994
African-American Deaths (Both Sexes)

Cause of Death	Rank Order	Number of Deaths	% of Total Deaths	Age-Adjusted Death Rates
All Causes		282,284	100.0	772.1
Diseases of the Heart	1	76,828	27.2	198.7
Malignant Neoplasms (Cancer)	2	59,932	21.2	173.7
Stroke	3	18,020	6.4	45.3
HIV	4	16,077	5.7	49.5
Homicide and Legal Intervention	5	12,195	4.3	38.2
Diabetes	6	9,848	3.5	27.4
Motor Vehicle Traffic Crashes	11	5,265	1.9	16.3

Native Americans

In 1994, there were 449 male deaths and 202 female deaths due to motor vehicle traffic crashes for Native Americans. This was 8.2% and 4.9% of all the male and female Native American deaths, respectively. The corresponding crude death rates per 100,000 resident Native American population was 40.8 for males and 18.1 for females.

Motor vehicle traffic crashes were the No.1 cause of Native American male deaths for each age 3, 8-10, 13, 17-18, 20-24, 26-27, 29-39, 32, 35-36 and 42. For these ages, traffic crashes were responsible for 211 deaths or 27.1% of all male deaths at these ages. This was 73% more than the number of victims due to the No.2 cause (Suicide) at these ages.

They were the No.1 cause of female Native American deaths for each age 1, 6, 9-11, 14-16, 18-26, 28, 31-34 and 39. For these ages, traffic crashes were responsible for 125 deaths or 34.7% of all female deaths at these ages. This was 331% more than the number of victims due to the No.2 cause (Nontransport Accidents) at these ages.

For both sexes combined, they were the No.1 cause of Native American deaths for each age 3, 6, 8-10, 14-28, 31-36 and 39. For these ages, traffic crashes were responsible for 390 deaths or 25.2% of all deaths in both sexes at these ages. This was 84% more than the number of victims due to the No.2 cause (Suicide) at these ages.

Exhibits 28-30 present statistics on the deaths caused by the 6 leading causes of death for Native American males, females and both sexes for 1994. The age-adjusted death rates of 42.6 and 31.5 due to motor vehicle traffic crashes for males and females, respectively, were significantly higher than the age-adjusted death rates for all victims (all races) due to motor vehicle traffic crashes (21.8 and 9.8). Overall, among Native American victims, they were the 3rd leading cause of death for males and 5th for females of all ages.

Exhibit 28 : Deaths, Percents of Total Deaths and Death Rates for the 6 Leading Causes of Death for Persons All Ages, by Sex, United States, 1994

NATIVE AMERICAN Male Deaths

Cause of Death	Rank Order	Number of Deaths	% of Total Deaths	Age-Adjusted Death Rates
All Causes		9,628	100.0	582.1
Diseases of the Heart	1	1,276	13.3	144.5
Cancer	2	773	8.0	90.8
Motor Vehicle Traffic Crashes	3	448	4.7	42.6
Nontransport Accidents	4	391	4.1	37.7
Suicide	5	254	2.6	23.5
Chronic Liver Disease and Cirrhosis	6	222	2.3	18.4

Exhibit 29 : Deaths, Percents of Total Deaths and Death Rates for the 6 Leading Causes of Death for Persons of All Ages, by Sex, United States, 1994

NATIVE AMERICAN Female Deaths

Cause of Death	Rank Order	Number of Deaths	% of Total Deaths	Age-Adjusted Death Rates
All Causes		4,137	100.0	999.0
Diseases of the Heart	1	916	22.1	214.8
Malignant Neoplasms (Cancer)	2	733	17.7	231.9
Diabetes	3	291	7.0	97.3
Stroke	4	244	5.9	17.3
Motor Vehicle Traffic Crashes	5	202	4.9	31.5
Pneumonia	6	189	4.6	20.5

Exhibit 30 : Deaths, Percents of Total Deaths and Death Rates for the 6 Leading Causes of Death for Persons of All Ages, by Sex, United States, 1994
NATIVE AMERICAN Deaths (Both Sexes)

Cause of Death	Rank Order	Number of Deaths	% of Total Deaths	Age-Adjusted Death Rates
All Causes		9,628	100.0	540.0
Diseases of the Heart	1	2,192	22.8	126.7
Malignant Neoplasms (Cancer)	2	1,506	15.6	96.7
Motor Vehicle Traffic Crashes	3	650	6.8	33.0
Nontransport Accidents	4	525	5.5	27.7
Diabetes	5	491	5.1	32.7
Stroke	6	449	4.7	11.5

Asian/Pacific Islander

In 1994, there were 535 male deaths and 350 female deaths due to motor vehicle traffic crashes for Asian/Pacific-Islanders. This was 3.5% and 3.0% of all the male and female Asian/Pacific-Islander deaths, respectively. The corresponding crude death rates per 100,000 resident Asian/Pacific-Islander population was 12.2 for males and 7.5 for females.

Motor vehicle traffic crashes were the No.1 cause of Asian/Pacific-Islander male deaths for each age 3, 5, 9, 13, 20 and 22-24. For these ages, traffic crashes were responsible for 105 deaths or 32.4% of all male deaths at these ages. This was 91% more than the number of victims due to the No.2 cause (Suicide) at these ages.

They were the No.1 cause of female Asian/Pacific-Islander deaths for each age 3, 5, 7, 10-11, 14, 16-18, 22-24 and 29-30. For these ages, traffic crashes were responsible for 74 deaths or 29.3% of all female deaths at these ages. This was 138% more than the number of victims due to the No.2 cause (Cancer) at these ages.

For both sexes combined, they were the No.1 cause of Asian/Pacific-Islander deaths for each age 3, 5, 7, 9, 13, 20, 22-24 and 30. For these ages, traffic crashes were responsible for 167 deaths or 29.2% of all deaths in both sexes at these ages. This was 111% more than the number of victims due to the No.2 cause (Suicide) at these ages.

Exhibits 31-33 present statistics on the deaths caused by the 6 leading causes of death for

Asian/Pacific-Islander males, females and both sexes for 1994. The age-adjusted death rates of 12.7 and 7.6 due to motor vehicle traffic crashes for males and females, respectively, were lower than the age-adjusted death rates for all victims (all races) due to motor vehicle traffic crashes (21.8 and 9.8). Overall, among Asian/Pacific-Islander victims, they were the 5th leading cause of death for males and 6th for females of all ages.

Exhibit 31 : Deaths, Percents of Total Deaths and Death Rates for the 6 Leading Causes of Death for Persons All Ages, by Sex, United States, 1994
ASIAN/PACIFIC ISLANDER Male Deaths

Cause of Death	Rank Order	Number of Deaths	% of Total Deaths	Age-Adjusted Death Rates
All Causes		15,397	100.0	369.1
Diseases of the Heart	1	4,215	27.4	101.6
Malignant Neoplasms (Cancer)	2	3,835	24.9	97.6
Stroke	3	1,185	7.7	28.3
Pneumonia	4	599	3.9	13.2
Motor Vehicle Traffic Crashes	5	534	3.5	12.7
Chronic Obstructive Pulmonary Conds.	6	498	3.2	12.0

Exhibit 32 : Deaths, Percents of Total Deaths and Death Rates for the 6 Leading Causes of Death for Persons of All Ages, by Sex, United States, 1994
ASIAN/PACIFIC ISLANDER Female Deaths

Cause of Death	Rank Order	Number of Deaths	% of Total Deaths	Age-Adjusted Death Rates
All Causes		11,692	100.0	221.9
Cancer	1	3,231	27.6	66.1
Diseases of the Heart	2	3,093	26.5	54.9
Stroke	3	1,152	9.9	20.9
Pneumonia	4	417	3.6	6.8
Diabetes	5	369	3.2	7.2
Motor Vehicle Traffic Crashes	6	350	3.0	7.6

**Exhibit 33 : Deaths, Percents of Total Deaths and Death Rates for the 6 Leading Causes of
Death for Persons of All Ages, by Sex, United States, 1994
ASIAN/PACIFIC ISLANDER Deaths (Both Sexes)**

Cause of Death	Rank Order	Number of Deaths	% of Total Deaths	Age-Adjusted Death Rates
All Causes		27,089	100.0	288.1
Diseases of the Heart	1	7,308	27.0	75.7
Malignant Neoplasms (Cancer)	2	7,066	26.1	79.8
Stroke	3	2,337	8.6	24.1
Pneumonia	4	1,016	3.8	9.6
Motor Vehicle Traffic Crashes	5	884	3.3	10.0
Chronic Obstructive Pulmonary Diseases	6	768	2.8	8.1

People of Hispanic Origin

In 1994, there were 3,078 male and 1,009 female victims of Hispanic Origin due to motor vehicle traffic crashes. This was approximately 5.7% and 2.8%, of all the male and female deaths, respectively. The corresponding crude death rates per 100,000 resident Hispanic population was 23.4 for males and 7.88 for females.

They were the No.1 cause of male, Hispanic death for each age 4-6 and 8-13. For these ages, traffic crashes were responsible for 141 deaths or 26% of all male deaths at these ages. This was 41% more than the number of victims due to the No.2 cause (cancer) at these ages.

They were the No.1 cause of female deaths for each age 3-4, 8, 10-11, 13-23, 25 and 27. For these ages, traffic crashes were responsible for 352 deaths. For these ages, traffic crashes were responsible for 352 deaths or 26% of all female deaths at these ages. This was 48% more than the number of victims due to the No.2 cause (Homicide and Legal Intervention) at these ages.

The incidence of males deaths from traffic crashes was greatest for ages 19-23, with a total of 610 deaths that ranged from a low of 106 for age 20 to a high of 133 for ages 21 and 22. 19.8% of the male traffic deaths occurred in this age group. For these ages, traffic crashes also accounted for 26.8% of male deaths from all causes, and 36% lesser deaths than the No. 1 cause (Homicide).

The incidence of female deaths from traffic crashes was greatest for ages 17-21, with a total of 147

deaths that ranged from a low of 29 for ages 17 and 20 to a high of 34 for age 18. 14.5% of the female traffic deaths occurred in this age group. For these ages, traffic crashes also accounted for 32.3% of the female deaths from all causes, and almost twice the number of deaths due to the No.2 cause (Homicide).

Exhibits 34 and 35 present statistics on the deaths caused by the 6 leading causes of death for males, females and both sexes of people of Hispanic Origin for 1994. The age-adjusted death rates of 24.2 and 8.1 due to motor vehicle traffic crashes for males and females, respectively, were close to age-adjusted death rates for all victims (Hispanic and Nonhispanic) due to motor vehicle traffic crashes (21.8 and 9.8). Overall, among victims of Hispanic Origin, they were the 5th leading cause of death for males and 6th for females of all ages.

Exhibit 34 : Deaths, Percents of Total Deaths and Death Rates for the 6 Leading Causes of Death for Persons of HISPANIC ORIGIN of All Ages, by Sex, United States, 1994

Male Deaths

Cause of Death	Rank Order	Number of Deaths	% of Total Deaths	Age-Adjusted Death Rates
All Causes		54,104	100.0	516.4
Diseases of the Heart	1	11,494	21.2	123.5
Malignant Neoplasms (Cancer)	2	8,861	16.4	97.5
HIV	3	4,822	8.9	39.3
Homicide and Legal Intervention	4	3,652	6.8	27.3
Motor Vehicle Traffic Crashes	5	3,078	5.7	24.2
Nontransport Accidents	6	2,468	4.6	19.7

**Exhibit 35 : Deaths, Percents of Total Deaths and Death Rates for the 6 Leading Causes of
Death for Persons of HISPANIC ORIGIN of All Ages, by Sex, United States, 1994
Female Deaths**

Cause of Death	Rank Order	Number of Deaths	% of Total Deaths	Age-Adjusted Death Rates
All Causes		36,005	100.0	384.6
Diseases of the Heart	1	9,677	26.9	67.0
Malignant Neoplasms (Cancer)	2	7,774	21.6	67.1
Stroke	3	2,330	6.5	16.5
Diabetes	4	2,009	5.8	17.3
Pneumonia	5	1,169	3.3	7.1
Motor Vehicle Traffic Crashes	6	1,009	2.8	8.1

9. Motor Vehicle Traffic Crashes as a Leading Cause of Death by the State of Residence

Exhibit 36 presents the deaths, percentage of deaths due to all causes and rank-order by the State of Residence of the victims due to motor vehicle traffic crashes in 1994. The death rate in Exhibit 22 is the crude death rate for both sexes combined.

The highest rank as a cause of death due to motor vehicle traffic crashes for both Sexes was 6 for the states of Alabama, Idaho, Mississippi, New Mexico, Oklahoma, Tennessee, Utah and Wyoming. For males, the highest rank as a cause of death was 4 for the state of Mississippi. For females, the highest rank of 7 was attained for the states of Idaho and Mississippi.

The highest death rate due to motor vehicle traffic crashes was 31.2 for both sexes in the state of Mississippi. The lowest death rate of 7.8 was for the state of Massachusetts.

The state of Wyoming, traffic crashes accounted for 4.6% of all male deaths, the highest percentage for any state. The corresponding percentage for female deaths was 2.5% for the state of Alaska. For both sexes combined, the state of New Mexico, where traffic crashes were responsible for 3.4% of all deaths in 1994.

Exhibit 36 : Deaths, Percentage of Total Deaths and Rank-Order of Deaths due to Motor Vehicle Traffic Crashes by the State of Residence of Victims, 1994, Males

State	Male			Female			Both Sexes			Death Rate
	Rank	Deaths	%	Rank	Deaths	%	Rank	Death	%	
AL	5	735	3.5	8	373	1.8	6	1,108	2.7	26.3
AK	6	50	3.4	9	24	2.5	7	74	3.0	12.3
AZ	6	598	3.2	10	266	1.7	7	864	2.5	21.2
AR	6	414	3.0	8	221	1.8	7	635	2.4	25.9
CA	9	2,975	2.5	8	1,392	1.3	9	4,367	2.0	13.9
CO	7	432	3.4	11	208	1.8	7	640	2.6	17.4
CT	10	221	1.5	19	100	0.7	13	321	1.1	9.8
DE	8	88	2.7	13	32	1.1	9	120	1.9	17.0
DC	16	45	1.1	22	21	0.7	18	66	0.9	11.6
FL	7	1,823	2.3	10	844	1.2	8	2,667	1.8	19.1
GA	6	986	3.4	9	468	1.7	6	1,454	2.6	20.6
HI	9	97	2.3	14	27	0.9	10	124	1.7	10.5
ID	8	154	3.5	7	93	2.3	6	247	2.9	21.8
IL	9	1,145	2.1	12	572	1.1	8	1,717	1.6	14.6
IN	6	640	2.5	12	323	1.2	7	963	1.8	16.7
IA	7	342	2.5	11	169	1.2	8	511	1.8	18.1
KS	6	313	2.7	12	151	1.3	7	464	2.0	18.2
KY	7	509	2.7	9	263	1.5	8	772	2.1	20.2
LA	6	594	3.0	12	264	1.4	9	858	2.2	19.9
ME	8	128	2.2	12	67	1.1	10	195	1.7	15.7
MD	10	436	2.1	15	215	1.1	9	651	1.6	13.0

State	Male			Female			Both Sexes			Death Rate
	Rank	Deaths	%	Rank	Deaths	%	Rank	Death	%	
MI	7	948	2.3	10	506	1.2	7	1,454	1.8	15.3
MN	8	434	2.4	11	258	1.4	11	692	1.9	15.2
MS	4	554	4.0	7	279	2.1	6	833	3.1	31.2
MO	6	725	2.7	10	359	1.3	8	1,084	2.0	20.5
MT	7	124	3.1	10	62	1.8	7	186	2.5	21.7
NE	6	173	2.3	13	89	1.2	9	262	1.8	16.1
NV	7	201	3.0	9	75	1.5	7	276	2.3	18.8
NH	10	66	1.5	11	48	1.1	11	114	1.3	10.0
NJ	10	509	1.4	19	249	0.7	13	758	1.1	9.6
NM	5	285	4.3	9	126	2.3	6	411	3.4	24.8
NY	11	1,184	1.4	16	612	0.7	11	1,796	1.1	9.9
NC	6	910	2.8	9	531	1.7	7	1,441	2.3	20.4
ND	9	51	1.6	12	33	1.2	11	84	1.4	13.1
OH	10	856	1.7	13	515	1.0	10	1,371	1.3	12.3
OK	6	510	3.1	12	211	1.3	6	721	2.2	22.1
OR	9	325	2.3	12	157	1.2	12	482	1.8	15.6
PA	10	1,040	1.7	17	479	0.7	12	1,519	1.2	12.3
RI	12	50	1.1	23	24	0.5	16	74	0.8	7.4
SC	5	556	3.3	9	266	1.7	7	822	2.6	22.6
SD	6	104	3.0	10	46	1.4	7	150	2.2	20.7
TN	6	823	3.2	10	428	1.7	6	1,251	2.5	24.2
TX	6	2,257	3.2	8	993	1.5	7	3,250	2.4	17.7
UT	6	237	4.3	8	111	2.3	6	348	3.3	18.2
VT	8	52	2.2	13	17	0.7	10	69	1.4	11.9

State	Male			Female			Both Sexes			Death Rate
	Rank	Deaths	%	Rank	Deaths	%	Rank	Death	%	
VA	9	592	2.2	14	305	1.2	8	897	1.7	13.7
WA	9	470	2.3	10	214	1.1	11	684	1.7	12.8
WV	8	235	2.3	10	126	1.3	7	361	1.8	19.8
WI	9	466	2.1	10	249	1.1	10	715	1.6	14.1
WY	5	83	4.6	8	32	1.9	6	115	3.3	24.1
Total	8	27,882	2.4	9	13,625	1.2	9	41,507	2.4	15.9

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Appendix 1: List of 64 Single and Aggregated Cause of Death Adopted by NCSA for Cause of Death Ranking

Code	Cause of Death	ICD Codes
1	Intestinal Infectious Diseases	001-009
2	Tuberculosis, all forms	010-018, 137
3	Septicaemia	38
4	Human Immunodeficiency Virus (HIV) Infection	042-044
5	Other Viral Diseases	045-079, 138
6	Other Infectious and parasitic Diseases	020-037, 039-041, 080-136, 139
7	Malignant Neoplasms (Cancer)	140-208
8	Benign Neoplasms (Including Carcinoma in-situ)	210-234
9	Neoplasms of Uncertain Behavior and Unspecified Nature	235-239
10	Diabetes Mellitus	250-250
11	Diseases of Thyroid and other Endocrine Glands	240-246, 251-259
12	Nutritional Deficiencies	260-269
13	Other metabolic and Immunity Disorders	270-279
14	Anaemia	280-285
15	Other Diseases of blood and blood forming organs	286-289
16	Alcohol Dependence	303-303
17	Other Neuroses	300-302, 304-316
18	Psychoses and mental Retardation	290-299, 317-319
19	Meningitis	320-322
20	Parkinson's Diseases	332
21	Multiple Sclerosis	340
22	Epilepsy	345
23	Alzheimer's Disease	331.0
24	Other Diseases of Nervous System and Sense Organs	323-330.9, 331.1-331.9, 333-337, 341-344, 346-389
25	Diseases of the Heart	390-398, 402, 404-429
26	Hypertension, with or without Renal Disease	401, 403
27	Cerebro Vascular Diseases (Stroke)	430-438
28	Atherosclerosis	440
29	Aortic Aneurysm	441
30	Other Diseases of Arteries, Arterioles and Capillaries	442-448
31	Diseases of Veins and Lymphatics	451-459
32	Acute Bronchitis and Bronchiolitis	466
33	Other Diseases of Upper Respiratory Tract	460-465, 470-478
34	Pneumonia	480-486
35	Influenza	487

Code	Cause of Death	ICD Codes
36	Chronic Obstructive Pulmonary Diseases	490-496
37	Pneumoconioses and Other Lung Diseases due to External	500-508
38	Other Diseases of the Respiratory System	510-519
39	Ulcer of Stomach and Duodenum	531-533
40	Hernia and Intestinal Obstruction without mention of Hernia	550-553, 560
41	Noninfective Enteritis and Colitis	555-558
42	Diverticula of Intestine	562
43	Chronic Liver Disease and Cirrhosis	571
44	Cholelithiasis and Other Diseases of Gallbladder	574-575
45	Diseases of Pancreas	577
46	Other Digestive Diseases	520-530, 534-543, 564-570, 572-573, 576, 578-579
47	Nephritis, Nephrotic Syndrome and Nephrosis	580-589
48	Infections of Kidney	590
49	Other Diseases of the Urinary System	591-599
50	Diseases of Genital Organs (and Breast)	600-629
51	Complications of Pregnancy, Childbirth and the Puerperium	630-676
52	Diseases of the Skin and Subcutaneous Tissue	680-709
53	Arthropathies and Related Disorders	710-719
54	Other Musculoskeletal and Connective Tissue Diseases	720-739
55	Congenital Anomalies	740-759
56	Certain Conditions Originating in the Perinatal Period	760-779
57	Symptoms, Signs and Ill-Defined Conditions	780-799
58	Motor Vehicle Traffic Crashes ¹	E810-E819
59	Motor Vehicle Nontraffic Crashes ²	E800-E807, E826-E848
60	Nontransport Accidents ³	E820-E825
61	Other Transport Crashes ⁴	E850-E949

¹Any transport crash involving a motor vehicle which originates from and/or terminates on a public roadway.

²Any transport crash involving a motor vehicle which occurs entirely off the public roadway

³Accidents due to poisoning, surgical misadventures, falls, fires, natural and environmental factors, submersion, suffocation, firearms, machinery, overexertion etc.

⁴Any transport crash involving aircraft, watercraft, railway trains, or other road vehicles, but excluding crashes involving motor vehicles and railway trains, or motor vehicles.

Code	Cause of Death	ICD Codes
62	Suicide	E950-E959
63	Homicide and Legal Intervention	E960-E978
64	Injury Unknown if Purposely or Accidentally Inflicted	E980-E999

Appendix 2 : List of 39 Single and Aggregated Causes of Death Adopted by the NCHS for Cause-of-Death Ranking¹

Cause of Death	ICD Codes
Shigellosis and Amebiasis	004, 006
Tuberculosis	010-018
Whooping Cough	033
Streptococcal Sore Throat, Scarletina, and Erysipelas	034-035
Meningococcal Infection	036
Septicemia	038
Human Immunodeficiency Virus (HIV) Infection	042-044
Acute Poliomyelitis	045
Measles	055
Viral Hepatitis	070
Syphilis	090-097
Malignant Neoplasms, including Neoplasms of Lymphatic and Hematopoietic Tissues	140-208
Benign Neoplasms, Carcinoma in Situ, and Neoplasms of Uncertain Behavior and of Unspecified Nature	210-239
Diabetes Mellitus	250
Nutritional Deficiencies	260-269
Anemias	280-285
Meningitis	320-322
Diseases of the Heart	390-398, 402, 404-429
Hypertension with or without Renal Disease	401, 403
Cerebrovascular Diseases	430-438
Atherosclerosis	440

¹Based on 37 categories from the NCHS List of 72 Selected Causes of Death, HIV and Alzheimer's Disease. See Reference 9, Tables 7-11, for listings of the 72 selected causes by age and race-sex group.

Appendix 2 (Continued):

Cause of Death	ICD Codes
Acute Bronchitis and Bronchiolitis	466
Pneumonia and Influenza	480-487
Chronic Obstructive Pulmonary Diseases and Allied Conditions	490-496
Ulcer of Stomach and Duodenum	531-533
Appendicitis	540-543
Hernia of Abdominal Cavity and Intestinal Obstruction without mention of Hernia	550-553,560
Chronic Liver Disease and Cirrhosis	571
Cholelithiasis and Other Disorders of Gallbladder	574-575
Nephritis, Nephrotic Syndrome, and Nephrosis	580-589
Infections of Kidney	590
Hyperplasia of Prostrate	600
Complications of Pregnancy, Childbirth and the Puerperium	630-676
Congenital Anomalies	740-759
Certain Conditions Originating in the Perinatal Period	760-779
Accidents and Adverse Effects	E800-E949
Suicide	E950-E959
Homicide and Legal Intervention	E960-E978
Alzheimer's Disease	331.0

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